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*The University of North Carolina at Greensboro* ED.D. 1984

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# A COMPARISON OF THREE METHODS OF CAREER PLANNING FOR LIBERAL ARTS MAJORS

by

James Worth Pickering

A Thesis (Dissertation) Submitted to
the Faculty of the Graduate School at
The University of North Carolina at Greensboro
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Approved by

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APPROVAL PAGE

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This investigation was designed to compare the effectiveness of a career-planning program for college liberal arts majors by directed self-study, professional career counseling, and the use of peer career tutors, as measured by Crites' (1978) Career Maturity Inventory (CMI) and an achievement test developed for the program. Support for the Career Planning Program was provided from a review of literature which suggested that (a) liberal arts majors need assistance in career planning program, (b) short-term interventions designed to facilitate the development of career maturity through a behavioral orientation are the most rigorous and successful interventions used in research with college students, and (c) much of career counseling is actually tutoring which can be effectively provided by peers.

Two sets of subjects who were sophomore students at two small, private, liberal arts colleges were invited to participate in a career planning program which was offered for academic credit. All students completed individual exercises in PATH: A Career Workbook for Liberal Arts Students (Figler, 1979a) and those assigned to either professional

counselors or peer career tutors participated in six group discussions. Those students assigned to directed self-study worked on their own and met with the investigator individually. Peer career tutors and career counselors were trained each week to provide the treatment the following week.

A pretest-posttest design was used with the CMI and PATH Examination as the dependent measures. A 2 X 3 factorial design was employed to evaluate the effects of the methods of treatment and college variables on the two dependent measures. MANOCOVA and ANOCOVA revealed no significant differences between methods of treatment or between colleges or due to the method of treatment by college interaction. However, t tests revealed significant gains across groups on the PATH Examination and CMI-Attitude Scale. The directed self-study approach was shown to be the most cost-effective method of delivering the Career Planning Program course, and thus it was recommended.

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# CHAPTER 1

# INTRODUCTION

The emphasis on career development and the concomitant need for career planning have experienced a recent "renaissance" as individuals react to the changing job market, the women's movement, and recognition of the increased importance of work in their lives (Crites, 1981). Herr and Cramer (1984) suggested that "career opportunities for most persons are so complex that career guidance in the family or neighborhood is likely to be inadequate for today's realities" (p. 138). Because higher education is viewed by so many people as an entree to good jobs, research on career planning for college students is needed.

## The Need for Career Development in Higher Education

The Carnegie Commission on Higher Education (1973) recommended career planning programs to help people respond to the changing labor market. Career-planning personnel, comprehensive career-planning systems, and empirical investigations of the utility of different career-planning programs were recognized as 3 of 14 principal needs by the National Academy of Education Task Force on Education and Employment

(Kerr, 1980). To satisfy these needs, the task force suggested that college and university administrators (a) evaluate their own programs and make any needed changes, (b) work with secondary schools to assure continuity between programs, (c) establish experiential learning programs, and (d) inform students, particularly liberal arts majors, how to add marketable skills to their majors. The task force also recommended that research be focused on a number of areas such as the methods and processes of career development.

In compiling a technical report for The Carnegie Council on Policy Studies in Higher Education, Levine (1980) observed that "if there are still students who come to school to find themselves, rather than jobs, they are keeping a low profile" (p. 61). Two Carnegie surveys which compared student attitudes in 1969 with those in 1976 supported his conclusion. The 1969 survey showed that undergraduates considered "learning to get along with people" (76%) and "formulating the values and goals for my life" (71%) to be the most essential outcomes of a college education, whereas undergraduates surveyed in 1976 considered "detailed grasp of a special field" (68%) and "training and skills for an occupation" (67%) to be the most essential outcomes (Levine, 1980, p. 61). Consequently, Levine (1980, 1983) recommended that education of the post-sixties generation emphasize (a) confronting and dealing with the common problems of humanity

and developing values and ethical behaviors and attitudes (i.e., the liberal arts) and (b) career planning. Astin (1978), The Carnegie Council on Policy Studies in Higher Education (1980), Harren, Daniels, and Buck (1981), and Rosen and Olson (1977) agreed with Levine (1980, 1983) that students attend college primarily for career training and therefore higher education is obligated to respond to those career development needs.

In addition to the support for career guidance offered by surveys, there is support in the student development theories, many of which cited Erikson. Ginn, (1979), Henderson and Henderson, (1975), King and Fields, (1980), Munley, (1975), and Tiedeman, (1965) cited Erikson's (1959/1980) stage of identity versus identity diffusion, and the need to develop a career plan as a significant part of that stage. Erikson (1959/1980) suggested that, "in general, it is primarily the inability to settle on an occupational identity which disturbs young people" (p. 97).

Berdie (1975) suggested that "the function of education can be conceived more properly as the creation of an identity rather than its discovery. Far more important than students finding out who they are is that they turn themselves into the people they wish to be" (p. 4). The responsibility for career development is on the student and suggests an action-oriented approach to career development. Berdie recommended

the development of career-planning programs to help students establish a direction to their activities rather than randomly engaging in activities without a plan or purpose.

## Purpose and Significance of the Investigation

The purpose of this investigation was to compare three methods of career planning and thus provide information to colleges to assist them in choosing an appropriate career-planning program. Specifically, this investigation was designed to compare the effectiveness of a six-session Career Planning Course delivered on three levels by career counselors, peer career tutors, or as directed self-study. The problem was suggested by a thorough review of the literature on career interventions published since 1975. Further, it allowed a test of the effectiveness of the treatment at two different colleges and thus attempted to account for some of the potential threats to external validity as defined by Bracht and Glass (1968).

That a career-planning program is needed, particularly for liberal arts majors, is no longer the question. The question now is which program will be most effective for liberal arts majors? Research which is presented in Chapter II suggested that liberal arts majors are likely to have a greater need for career planning programs than their peers who have chosen more specialized majors. Also, as will be

discussed in Chapter II, a review of career interventions with college students revealed that a variety of career planning programs have been tested and many have achieved success. Finally, it was found in Chapter II that peer tutors are an effective means of providing services to students, thus raising the question of which type of treatment is most cost-effective? Thus, the primary significance of this investigation is testing the effectiveness and cost-effectiveness of these three aspects--that is, of peer career tutors, career counselors, and students working on a directed self-study basis--as three methods of providing a career-planning program for liberal arts majors.

The significance of the investigation is further expanded by several technical aspects. First, based on the literature review in Chapter II, it was decided to use a standard, easily replicable treatment and the most frequently used standardized dependent measures. In addition, multiple dependent measures were used. Due to a poor response rate from subjects, it was also decided to replicate the investigation at two colleges and compare them to see if the results were similar. This was an attempt to improve the correspondence between the accessible population and the target population as defined by Bracht and Glass (1968).

Bracht and Glass (1968) argued that generalization from a sample to the target population is not direct. Instead, the generalization is from the sample (actual sample in the investigation) to the accessible population (subjects who may have been included in the investigation) which may or may not be representative of the actual target population (all liberal arts majors). While the first generalization (from the sample to the accessible population) may be a matter of statistics, the second generalization (from the accessible population to the target population) is made with less confidence unless the investigator is familiar with both populations. Comparing samples from two different colleges was an attempt to broaden the accessible population and to increase the degree of correspondence between the accessible and target populations. Different group leaders were employed at each college to eliminate the possibility of any method of treatment being supeior to the others due to the strength of the individual leader. This helped to strengthen the case for population validity also defined by Bracht and Glass (1968).

## Research Questions

The primary research question was, would there be differences in career maturity as measured by the Career Maturity Inventory (Crites, 1979) or achievement as measured by the PATH: A Career Workbook for Liberal Arts Students

Examination between groups led by career counselors, groups led by peer career tutors, and groups working on a directed self-study basis? Although it was expected that one level of the treatment would be more effective than the others, the null hypothesis that there would be no significant differences in either career maturity or achievement between methods of treatment was used to evaluate differences.

A second question asked which treatment was most cost effective, that is, which treatment was effective and less expensive to administer than the others? Assuming all treatments were equally effective, would it be less expensive to employ career counselors or peer career tutors or to have students work independently? All three options would involve the services of career counselors, either to provide the services, or to train and supervise the peer career tutors, or to meet briefly with participants working independently to check on their progress. However, it might be expected that as career counselors, whose salaries are higher, were less involved, the cost might be reduced.

The extension of the sample to include a second college posed two additional research questions: (a) would there be differences in career maturity and achievement between colleges and (b) would there be an interaction between the methods of treatment and the college at which the program was delivered; that is, would any differences in methods be the

same at both colleges? Regarding these questions, the research hypothesis was that there would be no differences between colleges and that there would be no differences due to an interaction of method of treatment and college. Because both colleges constituted the accessible population and probably were representative of the target population, participants from the two colleges were not expected to be significantly different from each other or to respond differently to the treatment.

## Strengths and Limitations

Regarding the external validity of the pretest-posttest design (Isaac & Michael, 1971), there were several strengths of this investigation. First, there was no multiple-treatment interference because only one treatment was used for each group. Two other suggestions by Isaac and Michael were incorporated into this investigation to improve generalizability. Different group leaders were used to deliver the same treatment; thus any effect could not be attributed to the strength of one group leader over another. Finally, multiple dependent measures which measure different attributes (career maturity and achievement) were used.

The greatest weakness of the investigation was also turned into a strength by repeating the investigation at a second college from the accessible population. The interaction effects of selection biases and the treatment (Isaac &

Michael, 1971) was perhaps the greatest weakness of the investigation. Participants were all volunteers, and since too few students volunteered from the original sample, the investigation was repeated at a second college. Additionally, not all volunteers at each college actually participated due to a lack of time required for the investigation. Therefore, generalization is limited to volunteers who had enough time to work on their own career development.

Repeating the investigation at a second college, however, improved generalizability because the investigation was repeated with different participants, during a different semester, using different group leaders. Assuming that there were no significant differences between colleges, it would be more likely that any effect was attributable to the treatment rather than to specific characteristics of the sample, the semester, or group leaders. Thus, the results are more clearly generalizable to other small, private, liberal arts colleges (the target population).

There were two other possible weaknesses of the investigation. First, because pretests were administered, there exists the possibility that they sensitized the participants to the content of the course. While this may be a limitation to the generalizability, the participants were well informed in the invitation letters as to the content and goals of the course. Similar publicity might also be used for other

career-planning programs. Since the material was not sensitive, it seems unlikely that participants were sensitized by the pretests.

A second limitation to the generalizability of the results is the reactive effect of the experimental procedures (Isaac & Michael, 1971). Participants were told that research was being conducted on the career planning program and were asked to sign a consent form. However, the most disturbing aspect to the participants seemed to be the presence of the tape recorders used to record each session. Participants may have relaxed and participated more, and thus learned more, without the tape recorders present. Therefore, other career counselors who use the course may find it to be more effective without the use of tape recorders.

Despite the potential weaknesses or limits to generalization, the facts that two samples from the accessible population were tested, that a standardized treatment was employed, and that standardized dependent measures were used make the results generalizable to the target population of students attending small, private, liberal arts colleges who volunteer and have enough time to participate.

## Definitions

An element of possible confusion exists with the terms used in this investigation; therefore, they will be defined.

Career vs. Vocation

Career is most frequently defined as a very broad concept incorporating both vocational and avocational aspects of one's life whereas vocation is often used to refer to just the work apect of life or to occupations requiring specific technical skills and training (Buck & Daniels, 1981; Crites, 1981; Gysbers & Moore, 1975; Heath, 1980; Herr & Cramer, 1979). Therefore the term career was used in this investigation.

Career Development

Career development is often used to refer to the psychological, sociological, educational, economic, and chance factors individuals experience as their careers develop through various educational and work experiences through the lifespan (Sears, 1982). Gysbers and Moore (1975) further defined the term as "life career development" to emphasize its evolution over the lifespan. Two important components are (a) an emphasis on career development as a lifelong process, and (b) the holistic nature of the process including all aspec s of one's life (Buck & Daniels, 1981; Gysbers & Moore, 1975; Herr & Cramer, 1979; Jorgenson & Spooner, 1981).

Career Education vs. Vocational Education

According to Harr .s and Grede (1979), vocational education was defined legally by Congress through the Smith-Hughes Act in 1917 as education that is "less than college

grade" (p. 67). The emphasis was on training for skilled and semiskilled fields or trades. Career education, conversely, is a more comprehensive term referring to the combination of all experiences which facilitate one's career development (Harris & Grede, 1979; Herr & Cramer, 1979; Reardon, 1981). Career education is associated with formal education at all levels (kindergarten-college) and is intended to facilitate the development of appropriate work attitudes as well as skills and knowledge in a specific field. Thus, it is the term used in this investigation.

Career Guidance and Career Counseling

Whereas career education is primarily curricular, career guidance is primarily a cocurricular activity designed to assist in facilitating students' career development. Crites (1981), and Reardon (1981) considered career counseling to be a subprocess of career guidance. The major difference between the two processes, according to Crites, is that career counseling includes an interpersonal relationship between counselor and client which provides the basis for helping the client. Both processes were part of this investigation and the term career counselor was used to designate group leaders who were practicing this profession.

Career/Vocational Maturity

The concept of career maturity was also important to this investigation as a dependent variable on which students

could be compared to their peers. Herr and Cramer (1979), Sears (1982), and Super (1974) defined career or vocational maturity as the growth or stage of individuals' vocational behavior relative to their peers. Westbrook and Mastie (1974) added that career or vocational maturity includes both cognitive and personality dimensions as well as the behavioral component. Because career was previously designated as the appropriate term for this investigation, career maturity was also chosen as the appropriate term.

Peer Career Tutors

There are also a variety of terms used to refer to student paraprofessionals. In the literature these students were referred to as paraprofessionals, Teaching Assistants (TA's), peer career tutors, facilitators, and instructor interns. Delworth, Sherwood, and Casaburri (1974) offered a global definition of the term paraprofessional in which they differentiated paraprofessionals from professionals according to education, training, experience, and credentials. They added that paraprofessionals provide services often considered to be professional services. Additionally, they could be paid, receive academic credit for, or volunteer their services. Peer career tutors was chosen as the term for this investigation, because they focus more specifically on tutoring skills.

In addition to methods of treatment employing career counselors and peer career tutors as defined above, directed self-study was a third method of treatment. In this investigation, directed self-study included one 30-minute small group meeting and three 15-minute meetings with the investigator to review what participants had accomplished independently. The term "directed self-study" is used throughout this paper to refer to this method of treatment.

The terms defined above were chosen for this investigation and used as defined throughout this paper. The remainder of this paper will consist of a review of the relevant literature (Chapter II), the methodology used in the investigation (Chapter III), the results of the investigation (Chapter IV), and a discussion of the results (Chapter V).

# CHAPTER II

# REVIEW OF THE LITERATURE

The review of the literature consists of a discussion of the special career development needs of liberal arts majors, a review of all of the empirical investigations with college students reported in the literature since 1975, and a comparison of counseling and tutoring by paraprofessionals.

## Career Development of Liberal Arts Majors

Although the debate about the necessity of career interventions for college students is not yet settled, the evidence seems to be in favor of some type of intervention, be it curricular or cocurricular. However, the debate takes on an added dimension when career development of liberal arts majors in particular is considered. Boardman (1980), the College Placement Council (1975), Ginn (1979), Goyne (1977), Rice (1980), and Tiedeman (1965) suggested that specific career development strategies need to be devised by colleges and universities to assist liberal arts majors while Bittner (1982), Enteman (1979), O'Neal and Wallace (1980), and Winter, McClelland, and Stewart (1981) defended the liberal arts as an excellent preparation for careers. The majority of researchers, however, suggested that either the liberal arts and career development are not antithetical or that an

integration of a liberal arts background and career development is necessary for the development of the whole person (Barnard, Jackson, & Seidman, 1981; Berdie, 1975; Brubacher, 1977; Carpenter, 1979; Craig, 1978; Hunter, 1977; Jorgenson & Spooner, 1981; Levine, 1980, 1983; Murchland, 1976; Riley, 1979; Sagen, 1979; J. M. Smith, 1981; Weaver & Haviland, 1980).

Before proceeding, it is important to understand the unique goals of a liberal arts education. A thorough review of the research by Winter et al. (1981) revealed the following goals of a liberal arts education:

(a) thinking critically or possessing broad analytical skill...;

(b) learning how to learn...;

(c) thinking independently...;

(d) empathizing, recognizing one's own assumptions, and seeing all sides of an issue...;

(e) exercising self-control for the sake of broader loyalities...;

(f) showing self-assurance in leadership ability...;

(g) demonstrating mature social and emotional judgement; personal integration...;

(h) holding equalitarian, liberal, pro-science, and antiauthoritarian values and beliefs...; and

(i) participating in and enjoying cultural experience (pp. 12-13).

Brubacher (1977) also described what constituted the liberal arts curriculum. The trivium consisted of grammar, logic, and rhetoric and remains essentially unchanged today. The quadrivium which consisted of arithmetic, geometry, astronomy, and music has expanded tremendously in modern times due to the accumulation and expansion of knowledge.

Problems Confronting the Liberal Arts

Problems in the liberal arts developed as society evolved from an agrarian to an industrial society. Brubacher (1977), Carpenter (1979), and Harris and Grede (1979) suggested that whereas higher education used to be reserved for the elite who did not have to work for a living, it is now open to a wide variety of people, most of whom will have to work for a living and therefore depend on that education to provide them with some marketable skills.

The College Placement Council (1975) and Sagen (1979) suggested that several other problems have developed which question the viability of a liberal arts education in modern society. The College Placement Council (1975) suggested that "at the root of the dilemma is the age-old phenomenon of supply versus demand" (p. 3) in the job market. They further suggested that colleges and universities, employers, the federal government, and students themselves play a part in

the problem. Sagen suggested that there are several problems within the liberal arts themselves that have contributed to the employment dilemma. For discussion, the problems were grouped into the following categories: (a) the liberal arts programs in colleges and universities; (b) the job market; (c) employers; and (d) students.

The problem in liberal arts programs. Sagen (1979) suggested that the problems within the liberal arts are (a) the irony of specialization within the liberal arts curriculum, (b) the failure to respond to the need for some specialized vocational expertise, and (c) the failure to provide credentials for relevant experience. Brubacher (1977) and Carpenter (1979) agreed with Sagen that the liberal arts are now often subject to the same criticism usually leveled at the professional schools; they have become too specialized. Even within the liberal arts curriculum, students select and study more rigorously a specific major.

Sagen's (1979) second criticism of the liberal arts was poignantly captured in a newspaper cartoon recalled by Goyne (1977)--"One recent cartoon showed a graduate, still dressed in cap and gown, standing before the desk of a skeptical Personnel Manager. The manager asked, 'yes, but what can you do besides graduate' (p. 198)?" Hunter (1977), Jorgenson and Spooner (1981), Riley (1979), and J. M. Smith (1981) agreed

that there is a need for some specialized vocational training for liberal arts graduates.

Sagen's (1979) final criticism of a liberal arts education was that liberal arts transcripts do not provide evidence of students' skills. The institution, therefore, needs to provide some ways for students to gain skills and to recognize those they have already developed. The College Placement Council (1975), Ginn (1979), and Weaver and Haviland (1980) suggested experiential learning such as internships as a means of developing and demonstrating the students' skills.

The problem of the job market. A second problem posed by the College Placement Council (1975) was the supply of jobs versus the demand for jobs. The College Placement Council found that the ratio of liberal arts majors to other majors was projected to increase from 42% in 1960-1961 to 58% in 1980-1981 while jobs in teaching and social services (two traditional sources of employment for liberal arts majors) were decreasing. Another bit of evidence offered by the College Placement Council was a survey by the U. S. Bureau of Labor Statistics of 1971-1972 graduates who were unemployed, which found that liberal arts graduates had the highest unemployment rate.

Sagen (1979) agreed that liberal arts majors are at a "competitive disadvantage in securing initial employment"

(p. 151). Instead of recommending abandonment of the liberal arts curriculum, however, the College Placement Council (1975) made specific recommendations directing colleges and universities, employers, the federal government, and students how to deal with the situation. In fact, in these actions, the College Placement Council supported the liberal arts curriculum.

The problem with employers. A third problem rests with the employers who are creating whatever demand exists for college graduates. The College Placement Council (1975) surveyed 100 companies in 1965 and again in 1972 and found that their interest in hiring liberal arts majors had changed dramatically in seven years. In 1965, 62% were either interested specifically in liberal arts majors (12%) or would hire either liberal arts majors or business majors (50%). However, in 1972 the percentages had dropped to 0% and 19%, respectively. A significant response from those companies who did not hire any liberal arts graduates was that 50% of them would consider hiring liberal arts graduates if they had taken some related courses or participated in an experiential program such as internships.

Goyne (1977), Murphy and Jenks (1983), and J. M. Smith (1981) suggested, in addition, that part of the problem with employers may be a lack of communication between the

corporate Chief Executive Officers (CEOs) and their personnel departments who actually do the hiring. Whereas the CEOs may prefer liberal arts graduates, the personnel departments prefer graduates with more specialized education, who will not require as much initial training. Conversely, Bittner (1982), a businessman, cited several examples of situations in which liberal arts majors who knew nothing previously about a problem, presented him with creative solutions, which, he suggested "require nothing more than the use of free, unrestrained intelligence and imagination" (p. 25). Perhaps, as Bittner implied, other employers are bypassing a valuable resource by not hiring liberal arts graduates.

A final dimension of the problem between employers and liberal arts graduates is the artificial inflation of the minimum requirements for a job, which is a result of the supply and demand situation previously mentioned. J. M. Smith (1981), Executive Director of the College Placement Council, suggested that employers should more carefully evaluate the minimum level of skills needed for an entry-level position.

The problem with students themselves. In addition to higher education, the job market, and employers, the final problem may rest with students themselves. O'Neal and Wallace (1980) suggested that liberal arts majors are partially responsible for their own dilemma if they do not

take full advantage of the educational opportunities offered to them. Weaver and Haviland (1980) suggested that a possible reason for this dilemma is that the tendency of liberal arts majors to defer their career decisions may seriously affect their ability to plan their careers carefully. Weaver and Haviland may have discovered a key problem with a liberal arts education, or of students who choose the liberal arts as a major. Decision making is an important skill for life and career planning as well as a skill sought by employers (J. M. Smith, 1981). This may be the reason that so many of the career interventions cited below focused on training students to make decisions.

Figler (1979b) agreed that liberal arts majors avoid career decisions and further characterized them as "reluctant dragons" who do not seek career development services until it is almost too late. He further described several characteristics of liberal arts majors which make their career planning difficult.

1. They have a variety of interests which they would like to include in their careers.
2. They cannot see beyond the present to plan their futures.
3. They are constantly reminded that a liberal arts degree is not marketable in today's job market.

4. Parents pressure them to make decisions which make their college educations worthwhile.
5. Few course requirements force students to interact with people in a variety of careers outside academia.
6. They expect to be able to solve their career difficulties in one meeting with a career counselor.
7. With encouragement from faculty, they may develop a poor attitude about work outside academia.

(pp. 19-20)

Clearly, liberal arts institutions and majors need to adjust to our changing society. Although they can have little effect on the job market and employers, colleges and universities must respond to the needs and interests of their students. The kind of adjustment which is needed is still a matter of great debate.

Support for the Liberal Arts

J. M. Smith (1981) stated that in general employers are still seeking employees with "1. communication skills, 2. people skills, and 3. decision making skills" (p. 3). He also suggested that this was a good description of a liberal arts graduate and others would probably agree (Bittner, 1982; Enteman, 1979; Figler, 1979b; Hunter, 1977; Murchland, 1976; O'Neal & Wallace, 1980; Riley, 1979). Murchland and Hunter stated that the liberal arts are career oriented because they provide general skills and abilities to meet the demands

outlined above. In responding to Sagen (1979), Enteman (1979) suggested that a liberal arts education may help students to develop more completely as persons and consequently also as employees.

Whether or not liberal arts graduates are equally competitive with professional school graduates, they may be better prepared for the realities of careers in modern society which may span 50 years (College Placement Council, 1975; Hunter, 1977; Levine, 1980; Peters & Waterman, 1982; Riley, 1979). Hunter defended the need for the general competencies developed through a liberal arts education as a necessity when college graduates often change jobs or careers six or seven times. Riley also suggested that a liberal arts education assists in the development of more responsible citizens in our modern technological society. Levine added that actually the time is right for a liberal arts education, to encourage people to consider ethics and values, to develop human relationship skills, and to have broader career training which will help in changing jobs so many times.

O'Neal and Wallace (1980) surveyed the 1971, 1973, and 1975 graduates of the Indiana University College of Arts and Sciences and found overwhelming support among the graduates for their liberal arts education. Another major empirical investigation of the value of a liberal arts education was reported by Winter et al. (1981). Although Winter et al.

acknowledged that, "in the land of the liberal arts, empirical evaluation will always remain a second-class activity compared to rhetoric and dialectic" (p. x), they sought to define operationally and test empirically some of the often cited hypotheses about the liberal arts.

Winter et al. (1981) compared "Ivy" College, a college with "undoubted liberal arts credentials" (p. 35), with a four-year state teacher's college and a two-year community college. Their results supported the distinctive effects of a liberal arts education at Ivy College and supported the claims of liberal arts educators reported above. Specifically, they found that a liberal arts education at Ivy College led to "increased maturity of adaptation...increased critical thinking...confident leadership...[and] increased independence of thought and action" (Winter et al., 1981, p. 146). A liberal arts education has much to offer students in modern society but they still need help to enter the labor market. If the liberal arts education is as important as is suggested, it seems important to have liberal arts graduates in all career fields.

Some Possible Solutions

Whether they supported the liberal arts as a viable option for students to pursue for career preparation or criticized the liberal arts as poor career preparation, most of the researchers supported some method of career guidance

for liberal arts majors as well as other students. The debate seems to be most heated between advocates of curricular reform (Brubacher, 1977; Carpenter, 1979; Goyne, 1977; Sagen, 1979; J. M. Smith, 1981) and those who oppose curricular reform (Enteman, 1979; Ginn, 1979; Hunter, 1977). Whereas Sagen (1979) argued that curricular reform will eventually be necessary because career guidance "may have reached a point of diminishing returns" (p. 159), Ginn suggested that actually career guidance exists perhaps to prevent the need for adding career education to the curriculum.

Actually, Sagen (1979) proposed curricular reform as the third stage in a progressive program of institutional response to the problems of liberal arts majors. The first step he suggested was to expand the career counseling and placement services, and the second step was to add an experiential learning component. The researchers surveyed were fairly evenly split between alternatives. Barnard et al. (1981), the College Placement Council (1975), Jorgenson and Spooner (1981), and Sagen (1979) supported a combination of curricular and cocurricular reform, while Berdie (1975), Enteman (1979), Ginn (1979), and Weaver and Haviland (1980) supported the use of cocurricular measures such as career counseling and placement. The College Placement Council (1975), Ginn (1979), Sagen (1979), Tiedeman (1965), and

Weaver and Haviland (1980) also supported the use of experiential learning experiences such as internships and externships.

A cocurricular strategy was chosen for this investigation since curricular reform is beyond the scope of this investigation and is not yet completely accepted. However, it is also important, before progressing through Sagen's (1979) stages, to determine whether or not the current cocurricular services are functioning effectively. Therefore, a review of the empirical investigations of career interventions for college students was conducted.

## Empirical Investigations of Career Interventions

A review of the literature on career interventions with college students from 1975 to the present was conducted to determine what type of interventions and theoretical orientations were used with college students. To be included in the review an article had to be an empirically based evaluation of a career intervention. Fretz's (1981) broad definition of career intervention as "any activity or program intended to facilitate career development" (p. 78) was employed. The only other limitations imposed were that (a) only the period from 1975 to the present was covered (Fretz extensively reviewed the literature prior to this period) and (b) only investigations using samples of college or community college students were included. These limitations had two

practical purposes: they limited the number of investigations reviewed to a manageable number, and they allowed focus upon one particular age group for a more accurate comparison. Fifty-seven investigations which met these criteria were found and analyzed according to treatment variables and outcomes, Fretz's (1981) classification, and Crites' (1981) theoretical classification.

Treatment Variables and Outcomes

The first step in categorizing the investigations was to construct Tables 1-3 which constitute the three most obvious categories of treatments. As suggested by Sherry and Staley (1984), length of treatment varied widely between investigations. Thus, the investigations were divided according to length of treatment or self-help and analyzed in relation to the dependent measures (career maturity, decision making, other career variables, personality variables) and the results of the investigations. The three categories were operationally defined as follows:

(a) short-term treatments which consisted of six or fewer sessions and constituted the most frequently used intervention (Table 1);

(b) long-term treatments which consisted of seven or more sessions (most of these interventions were career courses) (Table 2);

Table 1

Improvement or No Improvement as a Result of Short-Term (≤ 6 Sessions) Career Guidance Interventions Classified by Dependent Variables

| Reference | Dependent Variables | | | |
|---|---|---|---|---|
| | Career Maturity | Decision Making | Other Career Variables | Personality Variables |
| Arthur & Ebbers (1981)* | | | + | |
| Ash & Mandelbaum (1982) | | | + | |
| Austin & Grant (1981) | | | + | + |
| Barak & Friedkes (1981) | | 0 | | |
| Beatty & Gardner (1979) | | | | +0 |
| Crane (1978) | | | + | |
| Davidshofer, Thomas, & Preble (1976) | + | | | |
| Dixon & Claiborn (1981) | | | 0 | |
| Ganster & Lovell (1978) | + | | | |
| Hay, Rohen, & Murray (1976) | | | + | |
| Hollandsworth & Sandifer (1979) | | | + | |
| Hollandsworth, Dressel, & Stevens (1977) | | | | + |
| Kivlighan, Hageseth, Tipton, & McGovern (1981) | + | | + | |
| Krivatsy & Magoon (1976)* | | | 0 | |
| Krumboltz, Scherba, Hamel, & Mitchell (1982) | | + | | |
| Malett, Spokane, & Vance (1978) | | | 0 | |
| Mendonca & Siess (1976) | | + | + | + |

Table 1 (continued)

| Reference | Dependent Variables: Career Maturity | Decision Making | Other Career Variables | Personality Variables |
|---|---|---|---|---|
| Oliver (1977) | | | + | |
| Perovich & Mierzwa (1980) | + | | | + |
| Pyle & Stripling (1977)* | + | | | |
| Quinn (1976) | | | + | |
| Rubinstein (1978) | | | + | |
| Russel & Sullivan (1979) | | 0 | | |
| Schenk, Johnston, & Jacobson (1979) | + | + | + | |
| Snodgrass & Healy (1979) | 0 | | + | |
| Tillar & Hutchins (1979) | | + | | |

*Comparison between short-term and self-help interventions

+Improvement or difference between groups after treatment

0No improvement or difference between groups after treatment

Table 2

Improvement or No Improvement as a Result of Long Term ( ≥ 7 Sessions) Career Guidance Interventions Classified by Dependent Variables

| Reference | Dependent Variables | | | |
|---|---|---|---|---|
| | Career Maturity | Decision Making | Other Career Variables | Personality Variables |
| Babcock & Kaufman (1976) | | | + | |
| Barker (1981) | | + | + | + |
| Bartsch & Hackett (1979) | | + | + | + |
| Cochran, Heatherington, & Strand (1980) | | + | | |
| Comas & Day (1976) | | | + | |
| Ducat (1980) | | | 0 | |
| Evans & Rector (1978) | | + | + | |
| Gillingham & Lounsbury (1979) | | | + | |
| Heppner & Krause (1979) | | | + | |
| Johnson, Smither, & Holland (1981) | | | + | |
| Rayman, Bernard, Holland, & Barnett (1983) | + | | | |
| Rubinton (1980) | 0 | + | | |
| Scrimgeour & Gilgannon (1978) | +0 | | | |
| Sherry & Staley (1984) | + | | | |
| G. E. Smith (1981) | + | | | |
| Stonewater & Daniels (1983) | | | | +0 |

Table 2 (continued)

| Reference | Dependent Variables: Career Maturity | Decision Making | Other Career Variables | Personality Variables |
|---|---|---|---|---|
| Touchton, Wertheimer, Cornfeld, & Harrison (1977) | | | | + |
| Varvil-Weld & Fretz (1983) | | +0 | | |

+Improvement or difference between groups after treatment

0No improvement or difference between groups after treatment

(c) self-help treatments administered without counselor intervention (e.g., through use of interest inventories or computer packages) (Table 3).

Although this classification presented some problems connected with writing styles and different levels of sophistication in research, it is an accurate representation of what is currently being evaluated empirically in terms of career interventions with college students. Other problems encountered in the classification were the variety of treatments and dependent measures used, the fact that many of the treatments and dependent measures were not standardized, and the fact that many of the investigations were merely reports of courses or programs which were not well enough described to easily categorize. These problems were also recognized by Sherry and Staley (1984), who suggested that "overall, research in this area has been difficult to interpret because of methodological inconsistencies across studies" (p. 156). They went on to criticize the use of many different dependent measures including many locally developed instruments having only face validity.

Almost half of the investigations (N = 26) reported the results of short-term interventions and most of these interventions (81%) yielded some improvement. Three of these investigations provided a comparison with self-help groups and are therefore included in both Tables 1 and 3.

Table 3

Improvement or No Improvements as a Result of Self-Help Career Guidance Interventions Classified by Dependent Variables

| Reference | Dependent Variables | | | |
|---|---|---|---|---|
| | Career Maturity | Decision Making | Other Career Variables | Personality Variables |
| Arthur & Ebbers (1981)* | | | + | |
| Atanasoff & Slaney (1980) | | | 0 | |
| Bodden & James (1976) | | | | 0 |
| Byrne, Reardon, & Kelly (1979) | | | +0 | |
| Cesari, Winer, Zychlinski, & Laird (1982) | | | | 0 |
| Cochran, Hoffman, Strand, & Warren (1977) | | 0 | | 0 |
| Cooper (1976) | | | +0 | |
| Fisher, Reardon, & Burck (1976) | | | + | |
| Fretz & Leong (1982) | +0 | +0 | | |
| Krivatatsy & Magoon (1976)* | | | 0 | |
| Pinder & Fitzgerald (1984) | | + | | |
| Pyle & Stripling (1976) | + | | | |
| Pyle & Stripling (1977)* | + | | | |
| Sampson & Stripling (1979) | | | + | |

Table 3 (continued)

| Reference | Dependent Variables | | | |
|---|---|---|---|---|
| | Career Maturity | Decision Making | Other Career Variables | Personality Variables |
| Slaney (1983) | | | +0 | |
| Talbot & Birk (1979) | | | + | |

*Comparison study between self-help and short-term interventions

+Improvement or difference between groups after treatment

0No improvement or no difference between groups after treatment

Sixteen researchers (including the three comparison investigations) reported the results of investigations of self-help interventions of which 11 (69%) showed some improvement. Eighteen of the investigations used long-term interventions (career courses) and were the most successful (94% showed some improvement). Overall, 82% of the investigations reported some improvement or difference between treatments. This confirms Fretz's (1981) observation that despite type or quality of treatment, most interventions achieve some improvement.

It could easily be concluded from these findings that just about any intervention will result in improvement. This is the problem with action research lacking scientific rigor and with internal and external validity problems (Isaac & Michael, 1971). Disregarding any concerns about the methodologial rigor of the research, which was the most effective treatment? The self-help interventions were least effective which may indicate that a counselor needs to be directly involved in the treatment. While Graff, Danish, and Austin (1972), Krivatsy and Magoon (1976), Pinder and Fitzgerald (1984), and Talbot and Birk (1979) supported the use of counselor-free interventions; Bodden and James (1976), Pyle and Stripling (1976, 1977), Sampson and Stripling (1979), and Slaney (1983) suggested that the self-help treatments should only be used to augment the service of the counselor.

Although the long-term interventions were most successful, they also seemed to be less rigorously tested investigations and often involved only course evaluations. However, one would expect more change or growth over a longer period of time. If, as suggested by Sherry and Staley (1984) and supported by this review, longer interventions are more effective, perhaps length of treatment as a variable should be more rigorously tested. Another possible confounding factor is that the time commitment required may only have appealed to those students with more serious concerns or more time. Long-term interventions may unintentionally exclude some students who need career guidance and, when combined with the time commitment required of educators, raises the question of cost effectiveness.

Short-term treatments were the most popular and also seemed more rigorously tested and successful. They may have been chosen due to time constraints or because short-term treatments were deemed most appropriate. They also have the benefit of being able to reach more students. Ideally, a career guidance program should include all three types of treatments; however, if forced to choose one, the short-term treatment seems most cost effective and able to serve a larger number of students. Research comparing the effects of all three types of treatments is needed.

Fretz's (1981) Classification

The second step in comparing the investigations involved categorizing them according to Fretz's (1981) classification. Fretz focused his review on those investigations which either (a) studied the impact of client attributes on interventions, or (b) compared two or more types of interventions.

The second part of Fretz's (1981) review comparing types of interventions was considered first and led to the construction of Table 4. The table was divided into the five categories outlined by Fretz. As in Tables 1-3, the investigations were reported according to the results; either improvement/difference or no improvement/no difference. As can readily be observed from Table 4, there were also problems in classifying some of these investigations according to Fretz's (1981) scheme. The main problem was that only 13 of the 57 investigations could be classified into one of the 5 categories. Most of the other investigations (N = 33) were comparison studies, most often comparing the performance of two or more groups or individuals with a control group. In addition, there were 11 investigations which made no comparisons and often consisted of course or program evaluations. Table 4 suggests that when comparisons betwen treatment modalities are made, they are generally successful (69%).

Table 4

Classification of Career Guidance Investigations According to Fretz's (1981) Model and the Results

| Fretz's (1981) Comparisons | Results: Improvement/ Difference | Results: No Improvement/ No Difference |
|---|---|---|
| Techniques of Presenting Occupational Information | | Bodden & James (1976)<br>Cesari, Winer, Zychlinski, & Laird (1982) |
| Techniques of Presenting Test Information | Oliver (1977)<br>Rubinstein (1978)<br>Slaney (1983) | |
| Group vs. Individual Career Interventions | Babcock & Kaufman (1976) | |
| Structured, Self-Administered, or Computer-Administered Programs vs. Traditional Individual or Group Counseling | Pyle & Stripling (1977)<br>Sampson & Stripling (1979) | Krivatsy & Magoon (1976) |
| Various Combinations of Interventions | Hay, Rohen, & Murray (1976)<br>Mendonca & Siess (1976)<br>Tillar & Hutchins (1979) | Barak & Friedkes (1981) |

Fretz's criticisms of the state of research in career interventions were supported, and further investigations of this type are needed.

Fretz's (1981) recommendation that research consider the interaction of client attributes and career interventions led to the development of Table 5. Table 5 was designed according to Fretz's recommendations which summarized client attributes into three types. Examination of Table 5 suggests that either Fretz's indictment of the literature concerning the interaction between client attributes and career interventions is not justified, or researchers have focused more on this factor in recent years. The dates indicate that many of the investigations have been conducted since 1980 ($N$ = 21) which may signify a legitimate improvement in the literature. Of the 57 investigations included in this review, 44 investigated the interaction of client attributes and career interventions. Career-related attributes, particularly career maturity ($N$ = 15) and decision-making skills ($N$ = 14), were the most frequently investigated. This observation was also substantiated by Tables 1-3 in which decision making and career maturity were the two career-related variables specifically identified as dependent measures. Thus, it can be concluded that these two attributes are generally considered to be significant to career development. Fifteen investigations measured change in several psychological

Table 5

Classification of Career Guidance Programs Which Investigated Client Attribute-Treatment Interactions

| | Client Attributes | | |
|---|---|---|---|
| Reference | Demographic | Psychological | Career Related |
| Ash & Mandelbaum (1982) | | | Information Seeking |
| Austin & Grant (1981) | Socioeconomic Status (SES) | Self-evaluation, assertiveness, anxiety | |
| Barak & Friedkes (1981) | | | Decision-making (D-M) ability |
| Barker (1981) | | | D-M ability |
| Bartsch & Hackett (1979) | | Locus-of-control | Career planning, D-M skill |
| Beatty & Gardner (1979) | | Locus-of-control | |
| Bodden & James (1976) | | Cognitive complexity | |
| Byrne, Reardon, & Kelly (1979) | | Locus-of-control | Level of differentiation |
| Cesari, Winer, Zychlinski, & Laird (1982) | | Cognitive Complexity | |
| Cochran, Hetherington, & Strand (1980) | | | D-M skill |
| Cochran, Hoffman, Strand, & Warren (1977) | | Locus-of-control | D-M skill |

Table 5 (continued)

| Reference | Client Attributes | | |
|---|---|---|---|
| | Demographic | Psychological | Career Related |
| Cooper (1976) | | | Information-seeking, career salience |
| Davidshofer, Thomas, & Preble (1976) | | | Career maturity |
| Dixon & Claiborn (1981) | | | Perceived need for counseling, commitment to counseling |
| Ducat (1980) | | | Level of incorporation |
| Evans & Rector (1978) | | | D-M process |
| Fretz & Leong (1982) | | | Career maturity, D-M skill |
| Ganster & Lovell (1978) | | | Career maturity |
| Hay, Rohen, & Murray (1978) | Age, GPA, class | | |
| Hollandsworth, Dressel, & Stevens (1977) | | Anxiety level, eye contact, expression of feelings speaking ability | |
| Johnson, Smither, & Holland (1981) | | | Level of vocational identity |
| Kivilghan, Hageseth, Tipton, & McGovern (1981) | | Personality type | Career maturity |

Table 5 (continued)

| Reference | Client Attributes | | |
|---|---|---|---|
| | Demographic | Psychological | Career Related |
| Krumboltz, Scherba, Hamel, & Mitchell (1982) | Sex, Age | | D-M ability |
| Malett, Spokane, & Vance (1978) | | | Congruence of expressed and measured interests |
| Mendonca & Siess (1976) | | Anxiety | Problem solving ability<br>D-M ability |
| Oliver (1977) | | | Career maturity |
| Perovich & Mierzwa (1980) | Sex | Self-concept | Career maturity |
| Pinder & Fitzgerald (1984) | Sex | | D-M ability |
| Pyle & Stripling (1976) | | | Career maturity |
| Pyle & Stripling (1977) | | | Career maturity |
| Rayman, Bernard, Holland, & Barnett (1983) | Sex | | |
| Rubinstein (1978) | | Self-knowledge | Vocational choice maturity |
| Rubinton (1980) | | | Career maturity, D-M ability and style |
| Russel & Sullivan (1979) | | | D-M skills |
| Schenk, Johnston, & Jacobsen (1979) | | | D-M skills, career maturity, consistency and differentiation |

Table 5 (continued)

| Reference | Client Attributes | | |
|---|---|---|---|
| | Demographic | Psychological | Career Related |
| Scrimgeour & Gilgannon (1978) | | | Career maturity |
| Sherry & Staley (1984) | | | Career maturity |
| Slaney (1983) | | | Career Decidedness |
| G. E. Smith (1981) | | | Career maturity |
| Stonewater & Daniels (1983) | | Student development, cognitive development | |
| Snodgrass & Healy (1979) | | | Career maturity |
| Tillar & Hutchins (1979) | | | D-M ability |
| Touchton, Wertheimer, Cornfeld, & Harrison (1977) | | Cognitive complexity | |
| Varvil-Ward & Fretz (1983) | | Expectancies | Appropriateness of Choices, career behaviors, choice satisfaction |

variables, particularly anxiety (N = 3), locus of control (N = 4), and self-concept (N = 3). These may also be considered to be attributes significant to one's career development. With the variety of variables available, investigators must judiciously choose those to be explored in a particular investigation. Those listed above are recommended by previous research.

Crites' (1981) Classification

The final step in this review was an attempt to classify the investigations according to Crites' (1981) theoretical paradigm. This proved particularly difficult because theoretical positions were not always clearly stated or even implied. Some investigators who used other counselors allowed them to use their own theoretical orientation, so a given counselor's theoretical orientation may have been inconsistent even within investigations.

Although Crites (1981) presented five seemingly discrete theoretical positions, he also suggested that they were developed chronologically and therefore built upon each other. Consequently, classification of these investigations into discrete categories (e.g., Behavioral) often reflected elements of previously developed theoretical positions (i.e., Trait-and-Factor, Client-Centered, Psychodynamic, and Developmental).

Table 6 is divided into four of the five classifications recommended by Crites (1981). The Psychodynamic classification was not included because of the lack of investigations specifically citing it. Each theoretical orientation was also subdivided into the three major methods defined by Crites.

A majority (N = 41) of the investigations used some type of behavioral intervention and all of those focused on Behavioral interview techniques. Trait-and-factor was the second most popular theoretical orientation (N = 21), followed by Developmental (N = 6), and Client-Centered (N = 3). The total sum of more than 57 indicates that many investigators used more than one theoretical orientation, usually for different methods. Others compared different methods such as self-help (Behavioral) versus "traditional career counseling" (Client-Centered or Psychodynamic).

A note of caution is that the Behavioral orientation was the easiest to identify in terms of results because most investigators were measuring some change in behavior, but this does not mean that behavioral techniques were always used. This caution was taken into consideration when classifying investigations. Relatedly, many investigations using behavioral interventions also mentioned the applicability of the skills being taught to the clients' career development. Therefore, some behavioral interventions also may have

Table 6

Theoretical Classification of Career Guidance Investigations According to Crites' 1981 Paradigm of the Methods Used in Each Theoretical Orientation

| Reference | Theory | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Trait-and-Factor | | | Client-Centered | | | Developmental | | | Behavioral | | |
| | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information |
| Arthur & Ebbers (1981) | | | | | | | | | | X | | |
| Ash & Mandelbaum (1982) | | | | X | | | | | | X | | X |
| Atanasoff & Slaney (1980) | | X | | | | | | | | | | |
| Austin & Grant (1981) | X | | | | | | | | | X | | |
| Babcock & Kaufman (1976) | | | | | | | | | X | X | | |
| Barak & Friedkes (1981) | X | X | | | | | | X | | | | |
| Barker (1982) | | | | | | | | | | X | | |
| Bartsch & Hackett (1979) | | | | | | | | | | X | | |

Table 6 (continued)

| Reference | Theory | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Trait-and-Factor | | | Client-Centered | | | Developmental | | | Behavioral | | |
| | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information |
| Beatty & Gardner (1979) | | | | | | | | | | X | | |
| Bodden & James (1976) | | | | | | | | | | | | X |
| Byrne, Reardon, & Kelly (1979) | | X | | | | | | | | | | |
| Cesari, Winer, Zychlinski, & Laird (1982) | | | | | | | | | | | | X |
| Cochran, Hetherington, & Strand (1980) | X | | | | | | | | | X | | |
| Cochran, Hoffman, Strand, & Warren (1977) | | | | | | | | | | X | | X |
| Comas & Day (1976) | | | | | | | | | | X | X | X |
| Cooper (1976) | | X | | | | | | | | | | |
| Crane (1978) | | | | | | | | | | X | X | X |
| Davidshofer, Thomas, & Preble (1976) | | | | | | | X | X | | | | |

Table 6 (continued)

| Reference | Theory | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Trait-and-Factor | | | Client-Centered | | | Developmental | | | Behavioral | | |
| | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information |
| Dixon & Claiborn (1981) | X | | | X | | | | | | | | |
| Ducat (1980) | | | | | | | | | | X | | |
| Evans & Rector (1978) | | | | | | | | | | X | X | X |
| Fisher, Reardon, & Burck (1976) | | | | | | | | | | X | | X |
| Fretz & Leong (1982) | X | | | | | | | | | | | |
| Ganster & Lovell (1978) | | | | | | | | | | X | X | X |
| Gillingham & Lounsbury (1979) | | X | X | | | | | | | X | | |
| Hay, Rohen, & Murray (1976) | X | X | | | | | | | | | | |
| Heppner & Krause (1979) | | | | | | | | | | X | | |

Table 6 (continued)

| Reference | Theory | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Trait-and-Factor | | | Client-Centered | | | Developmental | | | Behavioral | | |
| | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information |
| Hollandsworth & Sandifer (1979) | | | | | | | | | | X | | |
| Hollandsworth, Dressel, & Stevens (1977) | X | | | | | | | | | X | | |
| Johnson, Smither, & Holland (1981) | | | | | | | | X | X | X | | |
| Kivlighan, Hageseth, Tipton, & McGovern (1981) | | | | | | | | | | X | X | X |
| Krivatsy & Magoon (1976) | | X | | | | | | | | X | | |
| Krumboltz, Scherba, Hamel, & Mitchell (1982) | | | | | | | | | | X | | X |
| Malett, Spokane, & Vance (1978) | X | | | | | | | | | | | |
| Mendonca & Siess (1976) | | | | | | | | | | X | | |

Table 6 (continued)

| Reference | Theory | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Trait-and-Factor | | | Client-Centered | | | Developmental | | | Behavioral | | |
| | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information |
| Oliver (1977) | X | | | | | | | | | | | |
| Perovich & Mierzwa (1980) | | | | X | | | | | | X | | |
| Pinder & Fitzgerald (1984) | | | | | | | | | | X | | X |
| Pyle & Stripling (1976) | | | | | | | | | | X | | X |
| Pyle & Stripling (1977) | | | | | | | | | | X | | X |
| Quinn (1976) | X | | | | | | | | | | | |
| Rayman, Bernard, Holland & Barnett (1983) | X | X | | | | | | | | X | | X |
| Rubinstein (1978) | | X | | | | | | | | | | |
| Rubinton (1980) | | | | | | | | | | X | | |
| Russel & Sullivan (1979) | | | | | | | | | | X | | |

Table 6 (continued)

| Reference | Theory | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Trait-and-Factor | | | Client-Centered | | | Developmental | | | Behavioral | | |
| | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information |
| Sampson & Stripling (1979) | | | | | | | | | | X | | X |
| Schenk, Johnston, & Jacobson (1979) | | | | | | | | | | X | | X |
| Scrimgeour & Gilgannon (1978) | X | | X | | | | | | | X | | |
| Sherry & Staley (1984) | | | | | | | | | | X | | |
| Slaney (1983) | X | X | X | | | | | | | | | |
| G. E. Smith (1981) | | | | | | | | | | X | | |
| Snodgrass & Healy (1979) | | | | | | | | | | X | | |
| Stonewater & Daniels (1983) | | | | | | | X | | | X | | |
| Talbot & Birk (1979) | | X | | | | | | | | | | |
| Tillar & Hutchins (1979) | X | X | | | | | | | | | | |

Table 6 (continued)

| Reference | Theory | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Trait-and-Factor | | | Client-Centered | | | Developmental | | | Behavioral | | |
| | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information | Interview Techniques | Test Interpretation | Occupational Information |
| Touchton, Wertheimer, Cornfeld, & Harrison (1977) | | | | | | | X | | | | | |
| Varvil-Ward & Fretz (1983) | | | | | | | | | | X | | |

been classified as developmental. Further, many behavioral investigations bordered on the trait-and-factor orientation because they were primarily didactic and involved the use of inventories. Similarly, many interview techniques, particularly when referred to as "traditional career counseling" for comparison, involved techniques falling into the Client-Centered or Psychodynamic orientations. To avoid confusion, however, all investigations were classified according to their predominant orientation.

The evidence in Table 6 suggests the use of behavioral interview techniques in career interventions. However, it also suggests that, to some extent, the use of interest inventories and didactic interventions involves the trait-and-factor orientation. Finally, a developmental perspective of a career guidance program aimed at facilitating students' lifelong career development is supported.

Summary and Conclusions

The research concerning career interventions has been inadequate as suggested by Fretz (1981), Ganster and Lovell (1978), and Sherry and Staley (1984). Ganster and Lovell suggested that previous research was deficient in two areas: (a) using dependent measures (often locally developed and untested) of unknown reliability and validity; and (b) not using rigorous experimental designs. Fretz further argued that experimental investigations constituted a small part of

the research literature, yet he also observed that despite the wide variety of interventions employed and the unsophisticated research methodology, researchers often found some improvement in subjects. Finally, Sherry and Staley suggested that another methodological inconsistency is length of treatment. All of these criticisms were supported by this review of the literature.

A summary of the findings of this review showed that (a) 57 investigations were found to fit all of the specified criteria for inclusion in the review; (b) the most frequently used experimental designs were the pretest-posttest design (N = 37) and the posttest only or program evaluation design (N = 11, usually consisting of course evaluations) while only two Solomon Four Group designs were employed; (c) most data analyses utilized ANOVA or ANOCOVA; (d) only about 35% used standardized dependent measures; and (e) the majority (N = 47, 82%) reported some degree of improvement although they may not have achieved statistical significance.

Evidence from this review of the literature suggests that a variety of interventions are available and all have shown some effectiveness. However, there is no consensus on which program is most important if a college or university cannot support a comprehensive program consisting of all three approaches. Short-term interventions designed to facilitate career maturity and the development of decision-

making skills through a behavioral orientation are recommended and supported by this review of the literature and were therefore chosen for this investigation. In addition, because of the predominant use of behavioral and trait-and-factor interventions, a didactic or tutoring approach rather than a pure counseling approach was suggested.

## Peer Tutoring

Of the previously cited 57 investigations, 18 used career courses as the treatment and were the most successful (94% showed some improvement). Most of these investigations used didactic as well as counseling techniques. In addition, when looking at some of the dependent variables which were investigated (e.g., decision making skills) the use of didactic interventions would be more appropriate than pure counseling approaches as suggested by Jackson and VanZoost (1974). Thus, the use of didactic versus counseling techniques is explored later as is evidence supporting the use of peer career tutors to provide career-planning services.

## Teaching versus Counseling

Glasser (1981) suggested that much of his counseling involves teaching; both teaching specific skills and abilities and teaching the counseling process to the client for use with future concerns. Jackson and VanZoost (1974) also suggested that teaching skills are appropriate in counseling situations which are emphasizing the learning of

specific skills measured by specific behavioral outcomes. Further, they suggested that clients in turn could teach the skills they learned to other clients. Blustein and Burton (1979) taught peers both teaching and counseling skills and suggested that the separation of the two may be unnecessary, especially in peer tutoring/counseling programs because many sessions which they observed involved the use of both skills. Similarly, Curran (1972) suggested that good teaching involves the incorporation of counseling skills. Taken together, these observations suggest that (a) both counseling and teaching skills are necessary and appropriate in helping relationships, and (b) peer career tutors can use these skills to help other students.

The basis of Curran's (1972) argument is that counselors or teachers must become involved with the whole person rather than viewing clients/students as dichotomized according to mind and body or cognition and affect. Curran thus developed the model of "counselearning" which combines counseling and learning to emphasize the "whole-person concept of learning" (p. 13). According to Curran, counseling and learning, when viewed as two separate processes, serve to dichotomize people. Counseling is often based on the medical model which focuses on helping "sick" people to improve by dealing with them affectively. Learning is often viewed behaviorally as a stimulus-response (S-R) model which emphasizes cognition.

The goal of counseling then is to involve the students affectively and cognitively (as whole persons) in order to develop better, more comprehensive solutions to their problems or concerns.

Rather than the techniques of traditional education, such as lecturing, which emphasize the dominant-submissive teacher-student relationship, Curran (1972) argued that learning for the whole person must be based on "convalidation" (a more mutually empathic and supportive relationship). In order for learning to occur there must be convalidation between students and teachers which involves the techniques of both counseling and teaching.

As counseling is often done in groups and teaching is most frequently done in groups, Curran (1972) further specified that counselearning take place in a "community." The emphasis on community suggests that a group works together according to group dynamics toward the solution of a learning task. A community, as a group, should encourage genuine communication between the participants and should accept the teacher as a part of the learning community.

Putting Curran's (1972) ideas of counselearning, convalidation, and community together supports the idea of peer tutoring. He suggested that some of the most significant learning occurs through other people as a growth process which is neither selective nor competitive. Peers are

already part of the learning community so the anxiety of the teacher and students interacting is reduced as is the normal competition between students. Curran called those few students who are the first to catch on to what the teacher is saying, "cognitive counselors" and suggested that they be used, in turn, to teach the other students either by repeating essentially what the teacher has said (teaching) or by being understanding counselors to the others as they struggle with the material (counseling).

Of the 57 investigations previously cited, Cochran et al. (1980) used peer career tutors as part of their treatment. In addition, Ash and Mandelbaum (1982), Fisher et al. (1976), Hay et al. (1976), Krivatsy and Magoon (1976), and Snodgrass and Healy (1979) employed paraprofessionals. All of these investigators except Krivatsy and Magoon reported improvement or a difference between groups after treatment. As Knierim (1979) suggested, use of only professional career counselors without paraprofessionals fails to recognize the "student 'grapevine'" which may be quite influential in students' lives.

Peer Career Tutors

In addition to the previously cited investigations, other researchers have supported the use of peer career tutors in academic settings as well as in student affairs setting. Rosenbaum (1973) developed a very detailed justification for

the use of computers in teaching and then suggested that substituting peers was a more cost-effective means of accomplishing the same goal. His two main justifications for either intervention were that (a) traditional instruction costs too much and is becoming even more expensive, and (b) traditional instruction fails to meet the needs of many students. His goal was to find a cost-effective program which takes into consideration the absolute cost of the system and its efficiency, that is, its cost relative to its benefits.

In addition, Rosenbaum (1973) argued that in order to be most effective, education must be customized to each individual student; hence, the computer has obvious applicability. However, he found that the success of the computer had little to do with the hardware but a great deal to do with the interaction between the student and the computer. His suggestion was a "buddy system" through which students would simulate their peers with the computer.

Gartner, Kohler, and Riessman (1971) agreed with Rosenbaum (1973) that one of the major keys to learning is individualization and that can best be achieved through the use of a computer or employment of peers. The use of peers, however, has the advantage of learning through interacting with other people, which idea would be fundamental to Curran's (1972) idea of convalidation. Interaction with

another person also seems important to involve the student affectively as well as cognitively. Allen (1976b) and Rosenbaum (1973) agreed with Curran's suggestion that effective learning requires both affective and cognitive involvement of the student.

From his own experience as a tutor, Sarbin (1976) found that the success of the tutoring relationships depended on the "acquisition of a 'friendship' role" (p. 28). If the relationship were one of friends or colleagues (peers) the tutoring seemed to be successful, whereas if the relationship were one of a more traditional student-teacher type the tutoring was less successful. The observation of all of these researchers is that not only is interaction with another person helpful to learning, but also the success of the tutoring relationship is dependent upon the type of roles which tutor and tutee play.

Boeding and Kitchner (1976), Fremouw and Feindler (1978), and Jackson and VanZoost (1974) also found that the tutors gained more from the experience than the tutees. Jackson and VanZoost specifically tested this assumption by requiring one group of students who were being taught study skills, each to teach these study skills to a friend between sessions. All three investigations supported Riessman's (1965) "helper therapy principle."

Several empirical investigations supported the use of peer career tutors in a variety of college settings (Anderson & Berdie, 1977; Arbes & Kitchener, 1974; Blustein & Burton, 1979; Boeding & Kitchener, 1976; Diamond, 1972; Fremouw & Feindler, 1978; Jackson & VanZoost, 1974). All reported some improvement in the groups using peer career tutors. Two additional programs provided support for the process of peer tutoring although they were not based on empirical investigations. Reinharz (1979) used TA's as experiential learning facilitators in a liberal arts program. Surveys of the TAs and their peers showed that both groups were satisfied with the program. In addition, he observed that the TA's were able to break down barriers to learning, students were more likely to participate in the experiential learning program, and students were more likely to ask questions than in a program taught only by professionals. Lazar (1976) also used TAs to assist with an individualized, self-paced English course in a community college. She was particularly impressed with the ability of the TA's to critique writing skills when there was no objective format or guide for doing so.

The general conclusion supported by all of these investigators is that peer tutoring is effective provided the peers are carefully selected, trained, and supervised. Peer tutors were shown to be effective in a variety of settings, involving teaching, tutoring, and counseling. The programs

were cost effective or cost efficient (Allen, 1976b; Boeding & Kitchner, 1976; Cowen, 1976; Feldman, Devin-Sheehan, & Allen, 1976; Fremouw & Feindler, 1978; Gartner et al., 1971) and allowed the university or college to provide more services to more students. Peer tutors also provided services to students in some unique ways not appropriate for professionals. As suggested by Boeding and Kitchner (1976), Fremouw and Feindler (1978), and Jackson and VanZoost (1974), benefits accrued to both the tutee and the tutor, sometimes more to the tutor.

## Summary

The literature review suggested (a) the need for career guidance for liberal arts majors, (b) the use of short-term behavioral interventions, and (c) the use of peer career tutors as a cost-effective means of providing the treatment to more students. While all students could profit from career planning services, liberal arts majors seem to be at a greater disadvantage in seeking employment. Although they are not solely responsible for their dilemma, liberal arts majors are the one part of the situation on which institutions can have the most impact.

In order to assist liberal arts majors in their career planning, a variety of interventions have been found to be effective. While a comprehensive program with several approaches to career planning is recommended, the short-term

behavioral treatment would be recommended if forced to choose one approach. However, that approach would probably also include trait-and-factor and developmental components. Finally, it was reported that any approach should deal with students both cognitively and affectively and that peer tutors may be the most cost-effective means of providing treatment to the most students. Peer career tutors will also be able to interact with students in ways deemed inappropriate for professionals. Therefore, a short-term Behavioral treatment for liberal arts majors was chosen for this investigation. Since all approaches were found to be effective in the literature review, it was decided to compare the effects of the treatment when offered by career counselors, or by peer career tutors, or on an directed self-study basis as described in Chapter III.

# CHAPTER III

# METHODOLOGY

Based on the review of research reported in Chapter II, a treatment was developed as reported in this chapter. First, the procedures used to select the subjects are presented followed by descriptions of the treatment program and the dependent measures. Next, the design of the investigation is explained, followed by a description of the procedures by which the treatment was administered and the data collected. Finally, the statistical analysis is summarized.

## Subjects

The following were criteria for choosing the colleges as sites for the investigation: (a) they had to be primarily liberal arts colleges; (b) they had to be located within commuting distance of the investigator; and (c) they had to be willing to support the Career Planning Course by offering academic credit to the participants and allowing their career counselors to work as group leaders. Of the three institutions contacted for the original investigation (Duke University, Guilford College, and Wake Forest University), only Guilford College met the criteria. Of the two colleges contacted for the second part of the sample (Elon College and High Point College), only Elon College met the criteria. At

both colleges, sophomores were chosen as the population because they were normally expected to declare a major during their second year and thus might have the greatest need for assistance in making a career decision.

During the 1983 fall semester the Career Planning Course was conducted at Guilford College which has an enrollment of about 1100 students (K. Schwab, personal communication, March 1983). In order to provide the largest possible sample, the sophomore class was operationally defined to include those students who had completed at least 16 credits and those students who while in their third academic year had earned fewer credits than the number required for junior status (57 credits). Thus the criterion established for participation was the achievement of between 16 and 56 credits. Of the 366 Guilford students identified and contacted during July 1983, 54 agreed to participate, 15 requested further information, and 9 indicated they did not wish to participate. Two hundred eighty-eight students did not respond to the first letter. Follow-up letters, either giving more information (sent to respondents) or encouraging students to participate (sent to nonrespondents), yielded four additional responses from students who agreed to participate and eight students who did not wish to participate. Of the 65 who agreed to participate, 35 (54%) took the pretests and 32 (49%) completed the seminar. Thirty-three (51%) of those who

initially agreed to participate did not complete the seminar. The primary reason given for not participating after initially agreeing to participate, was lack of time. Perhaps it seemed to the students that they had enough time when they were initially contacted in the summer, but they found themselves overcommitted during the third week of the semester when the pretests were given. The reason given by those students who dropped out was also lack of time.

Due to a lower than expected rate of participation at Guilford, it was decided to repeat the investigation during the spring semester at Elon College which has an enrollment of about 2800 students (S. Phillips, personal communication, December 1983). As at Guilford, students who had completed 15-53 credits were contacted and encouraged to participate through the same procedure used with Guilford students. Of the 902 students identified and contacted during January 1984, 14 agreed to participate, 15 requested further information, and 4 indicated they did not wish to participate. The remaining 869 students did not respond. The same follow-up letters were sent to the Elon students and yielded 24 additional students who agreed to participate and 2 students who did not wish to participate. Of the 53 who agreed to participate or requested further information, 43 (81%) took the pretests and 36 (68%) completed the seminar. The seven dropouts either failed to attend the first meeting or did not

return after the first meeting. Efforts to contact them after that time were futile.

## Treatment

A structured workbook approach was chosen for this investigation because (a) the majority of the career interventions reported in Chapter II (72%) recommended the use of a behavioral approach with a developmental perspective and (b) many of the career interventions described seemed to employ locally developed career development programs and/or a variety of techniques collected from different sources. It was decided that a more standard and replicable approach was needed as this would make the treatment more easily replicable by other researchers and career counselors. Thus, the external validity of the investigation would be greater.

PATH: A Career Workbook for Liberal Arts Students (Figler, 1979a) which is an easily replicable treatment is a structured workbook with a unique focus on liberal arts majors. Figler (1979a) described PATH as a "self-instructional workbook" (p. 17), which can be used by students independently or in groups led by counselors or faculty, and the emphasis on teaching and learning suggested the behavioral and trait-and-factor approaches. Figler also suggested that learning the process of career planning was just as important as making a correct decision (content), a point which is consistent with behavioral thought. In

addition, Figler looked at career decision making as a life-long process which suggested the developmental perspective.

Although it has been cited occasionally in the literature (Cochran & Rademacher, 1978; Connors & Pruit, 1978; Rayman, Bryson, & Day, 1978) as a career-planning program, there is little empirical evidence regarding PATH. Koehn (1978) surveyed 37 colleges and universities in California and found that 42% of them used PATH while 92% of them used Bolles' (1981) What Color Is Your Parachute? and 58% of them used Crystal and Bolles' (1974) Where Do I Go From Here With My Life? Finally, two investigations (Hetherington & Hudson, 1981; Schrank, 1982) used the values clarification exercises in PATH as a tool to help students clarify their values; however, PATH was not a significant enough part of the treatment to be considered specifically in the results.

Although not convinced that students would take advantage of PATH individually, Figler (1979a) reported that it could be used as a directed self-study intervention. His strongest recommendation was that counselors or faculty members use PATH as an instructional program in a group setting. He emphasized in particular, the value of using PATH in small groups and suggested specific guidelines for doing so. Figler did not specify whether or not it would be appropriate for peer career tutors to use PATH; however, in another publication, Figler (1979b) supported peer counseling as one

component of a comprehensive career development program. Correspondence from the publisher (C. N. Schrameck, personal communication, June 14, 1983) suggested that using peer career tutors as group leaders was permissible if they follow the "Instructions for Group Facilitators" printed in the second edition.

PATH proceeds through a series of 18 individual and 6 group exercises to help students identify their values, identify their skills, and develop a unique career based on those values and skills (Figler, 1979a). After completing the individual exercises as homework, the students met in small groups six times to discuss the following topics:

(a) the career planning process and the value of a liberal arts education (one meeting);

(b) specifying values (two meetings);

(c) specifying abilities (one meeting); and

(d) creating a unique career (two meetings).

In summary, PATH was chosen as the method of career planning to be administered by career counselors, peer career tutors, and on a directed self-study basis because (a) it has a unique focus on the career development of liberal arts majors, (b) the information is presented in a workbook format with individual exercises and specific instructions given for group leaders to use in the group exercises, and (c) it takes students through some of the major aspects of career decision

making (i.e., values clarification, skills identification, and using the two to make a career choice).

## Dependent Measures

As reported in Chapter II, the most frequently used dependent variable in the 57 career interventions was career maturity and the most frequently used measure of career maturity was Crites' (1978a, 1979b) Career Maturity Inventory (CMI). Therefore, the CMI was chosen as the measure of career maturity. Since the CMI is a measure both of career maturity and career decision-making ability, as assessed by the five subscales of the Attitude Scale (Crites, 1978a), the two most frequently investigated career-related variables identified in Table 5 were measured.

In addition to the CMI, the PATH Examination designed to measure acquisition of skills based on the treatment was developed specifically for this investigation. It is described below. Finally, as recommended by Byrne et al. (1979), Cowen (1979), Fretz (1981), Krivatsy and Magoon (1976), Oliver (1979), Rosenbaum (1973), and Talbot and Birk (1979), a measure of cost effectiveness was developed for this investigation.

### Career Maturity Inventory (CMI) (Crites, 1978a, 1978b)

The CMI is based theoretically on the Trait-and-Factor, Psychodynamic, and Developmental orientations with particular emphasis on the Developmental aspect (Crites, 1978b). Crites

(1978a) further reported that he designed the CMI to measure the developmental gradient, that is differences in age or grade of students. Thus, career maturity should improve as students progress through school. The CMI includes the Attitude Scale and the Competence Test, each composed of five subscales, and takes approximately 2 1/2 hours to administer (Crites, 1978a, 1979b).

The five subscales of the Attitude Scale measure (a) decisiveness in career decision making, (b) involvement in career decision making, (c) independence in career decision making, (d) orientation to career decision making, and (e) compromise in career decision making. Crites (1978a) recommended using the Attitude Scale to screen students for career maturity. It was designed to measure the nonintellective variables and is composed of attitudinal statements answered in a true-false response format which can be administered in either of two forms: (a) the Screening Form A-2, which is composed of 50 items, takes about 30 minutes to administer, and yields one total score; or (b) the Counseling Form B-1, which is composed of 75 items, takes about 40 minutes to administer and yields separate scores for each of the five subscales (Crites, 1978a, 1978b). The Counseling Form B-1 is part of the CMI for Adults and thus was used in this investigation.

The five subscales of the Competence Test, which measures the more intellective variables, include (a) Self-Appraisal, (b) Occupational Information, (c) Goal Selection, (d) Planning, and (e) Problem Solving (Crites, 1978a). Each of the subtests consists of 20 situations for which the student chooses the best solution from among four options plus a fifth "don't know" option. Each subtest yields a separate score; no composite score is reported.

Reliability. Crites (1978b) reported internal consistency coefficients [Kuder-Richardson Formula 20 (KR-20)] for the Screening Form of the Attitude Scale ranging from .73 to .75 with a mean of .74 for students in grades 6-12. With a sample ($N$ = 7868) of high school seniors the KR-20 coefficient was .74. He also reported a test-retest stability coefficient of .71 for the 6th-12th graders over a one-year interval. Crites (1978b) suggested that .71 was satisfactory because "the test-retest reliability of such a scale should be low enough to allow for maturational variance but high enough to establish systematic measurement of the variable being quantified" (p. 12). Finally, for the Counseling Form of the Attitude Scale, Crites reported internal consistency coefficients (KR-20) ranging from .50 (Compromise in Career Decision Making) to .72 (Orientation to Career Decision Making) with a mean of .64.

For the Competence Test, Crites (1978b) reported internal consistency (KR-20) coefficients ranging from .73 to .90 with a mean of .84 for a group of high school seniors. He concluded that the five subtests each are homogeneous within themselves (Crites, 1978b).

Validity. To support the content validity of the Attitude Scale, Screening Form, Crites (1978b) developed the items from theoretical concepts and statements made by students in career counseling. He also reported a study in which the judgements of 10 counseling psychologists were compared with those of a group of students and the psychologists agreed with the students on 37 of the 50 questions for a rate of 74%. Finally, Crites (1978b) reported the results of several investigations which supported both construct validity and the criterion-related validity of the Attitude Scale with junior high and senior high school students. Support for the validity of the Counseling Form was not yet completed when the manual was published; however, Crites (1978b) suggested that initial factor analysis used to develop the five subscales supported their validity as representing different factors.

Crites (1978b) described the content validity of the Competence Test in the same manner as he did the Attitude Scale, that is, by developing the items from current career development theory and statements made by students in career

counseling. Since scores are predicted to increase or decrease between grades in school, Crites studied the overlap of scores on the five subtests to support criterion-related validity. He found overlaps ranging from 33% to 56% with a median of 43% which he suggested shows sufficient differentiation between grades in school.

To establish construct validity, Crites suggested that since the five subtests of the Competence Test all attempt to measure the construct of career choice competencies, they should be correlated with each other in the range of $\underline{r}$ = .40 to $\underline{r}$ = .60 . For high school juniors and seniors, he found a range of $\underline{r}$ = .55 to $\underline{r}$ = .69 . Thus, Crites reported that the Competence Test has sufficient construct validity.

With a sample of 439 high school students (grades 9-12) in Ontario, Alvi and Khan (1983) found correlations between the Attitude Scale and the subtests of the Competence Test ranging from .00 to .24 with an average of .13 . Intercorrelations among the subtests of the Competence Test ranged from .11 to .54 with an average of .38 . Thus, the Attitude Scale and the Competence Test seem to be measuring different constructs while the subtests of the Competence Test seem to be relatively homogeneous, measuring the same construct or related constructs.

Crites (1978a) concluded that the CMI is a "reliable and valid measure of career maturity" (p. 46). Other reviewers (Katz, 1978, 1982; Zytowski, 1978) disagreed with Crites' claims, however. Although they complimented Crites' efforts and the quality of the manuals, they questioned the validity of the CMI for its stated purposes.

Although Jepsen and Prediger (1981) factor analyzed the CMI and found that the Attitude Scale loaded on factors other than those predicted by Crites' (1978b) theory, they recommended the CMI as the best single instrument to predict general career maturity. Oliver (1979) further argued that instruments used in previous research should be used in current investigations and the CMI was used in 12 of the 57 previously cited investigations (Davidshofer et al., 1976; Fretz & Leong, 1982; Ganster & Lovell, 1978; Kivlighan et al., 1981; Oliver, 1977; Pyle & Stripling, 1976, 1977; Rubinton, 1980; Scrimgeour & Gilgannon, 1978; Sherry & Staley, 1984; G. E. Smith, 1981; Snodgrass & Healy, 1979). Despite some questions about the reliability and validity of the CMI, it was determined to be the best and most frequently used measure of career maturity available, at least for research purposes. Therefore, it was chosen for this investigation.

Most of the investigators, cited in Chapter II, who used the CMI as a dependent measure used only the Attitude Scale (N = 7). Of those who used the subtests of the Competence Test as dependent measures, Snodgrass and Healy (1979) used only the Problem Solving Subtest, Fretz and Leong (1982) and Scrimgeour and Gilgannon (1978) used all five subtests separately in their analysis, and Ganster and Lovell (1978) derived a total Competence Test score for their initial analysis which they followed up with separate analyses to evaluate the differences. Ganster and Lovell found significant differences after treatment for the total Competence Test and for three of the subtests. Crites (1978a) argued that each subtest measures different competencies and thus, by combining them, one might lose information about specific competencies. Because combining the subtests into a total score would increase the reliability due to the greater number of items, and because specific information from each scale was not needed in this investigation to determine specific career guidance program needs, it was decided to use a total Competence Test score as a measure for this investigation.

PATH Examination

The PATH Examination (see Appendix A) consists of 30, four-choice, multiple-choice items based on the content of PATH (Figler, 1979). The examination was designed

specifically for this investigation to test the development of knowledge about and skills in career decision making as a result of the six-session Career Planning Course. The items were developed to assess four areas corresponding to the previously described topics of the Career Planning Course (Table 7). The number of items assigned to each topic was proportional to the number of exercises in PATH and the number of meetings devoted to each topic.

Fifty-five items were written initially and edited by several colleagues including doctoral committee members and the Assistant Director of Career Planning and Placement at the University of North Carolina at Greensboro (UNCG) (see Appendix B for Instructions for Editors). From this edited group of items, 30 were chosen as most representative of the four topics previously described. This form was tested for reliability and validity as follows.

Reliability. In order to test for internal consistency, the PATH Examination was administered to 19 graduate students attending either a class on Counseling Theories and Practice or Techniques of Group Counseling at UNCG in August 1983. A KR-20 coefficient of .63 was found. It was decided that the reliability, while far from ideal, was sufficient for the purpose of this investigation.

Table 7

Format of the PATH Examination

| Topic | PATH Assignment | Number of Group Meetings | Number of Items |
|---|---|---|---|
| Discussion of the Career Planning Process and the value of a Liberal Arts Education | Read pages 8-39 | 1 | 5 (4, 8, 17, 24, 29) |
| Specifying values | Exercises 1-6 (pages 40-63) | 2 | 10 (5, 7, 9, 12, 14, 15, 19, 27, 28, 30) |
| Specifying abilities | Exercises 7-9 | 1 | 5 (2, 3, 6, 16, 26) |
| Creating a unique career | Exercises 10-18 | 2 | 10 (1, 10, 11, 13, 18, 20, 21, 22, 23, 25) |

Validity. The major concern with validity was content validity; that is, does the content of the PATH Examination reflect the content of PATH and the Career Planning Course? To test this, external, expert judges were employed to evaluate the examination by looking at each item and categorizing it into one of the four topics previously described (see Appendix B for Instructions for Expert Judges). Six judges who were primarily advanced doctoral students (one judge was at the master's level with advanced coursework) were chosen to evaluate the examination. All had completed an advanced Career Counseling course at UNCG and were National Certified Counselors, having passed the National Board of Certified Counselors Examination of the American Association for Counseling and Development.

The results suggest a modest amount of validity. The six judges, who responded in a different manner, agreed with the investigator on the placement of the 30 questions into the four categories to the extent indicated in Table 8. Table 8 reports four groups of items according to the extent to which the judges agreed on their placement into the four categories. The four categories are represented in the last four columns on the right. The rows represent judge agreement rates of 100%, 83%, 67%, and less than 50% The rate of agreement between judges was 67% or greater for

Table 8

Categorization of PATH Examination Items By Expert Judges According to Seminar Topics

| Percentage of Judges Agreeing on Placement of Items | Number of Items About Which Judges Agreed | Items by Topic | | | |
|---|---|---|---|---|---|
| | | Value of Liberal Arts | Values | Skills | Creating Unique Career |
| 100 | 13 | 4, 29 | 5, 9, 14, 19 27, 30 | 2, 6, 16 | 20, 22 |
| 83 | 6 | 17 | | | 1, 10, 13, 18, 23 |
| 67 | 4 | 8 | 15 | 26 | 21 |
| $\leq$ 50 | 7 | 24 | 7, 12, 28 | 3 | 11, 25 |
| Total Number of questions | 30 | 5 | 10 | 5 | 10 |

23 questions and there was complete agreement on the categoriztion of 13 questions.

Table 8 was also inspected to determine if any topic elicited more disagreement than the others. All four topic areas have items which produced some disagreement among the judges. It also shows that the occurrence of those items is in approximate proportion to the total number of items in that category (either 5 or 10). On three of the items on which the judges showed less than 50% agreement with the investigator (3, 11, 28), the external judges actually agreed with each other at the rate of 83% that all three items were about the first topic (the career planning process and the value of a liberal arts education) while the items were designed to be in the skills, creating a unique career, and values categories respectively. On the basis of the information attained in the reliability and validity studies, changes were made in items 3, 7, 11, 14, 24, and 28. This final edition was used in the investigation.

Cost Effectiveness

As suggested by Oliver (1979), cost effectiveness is an unobtrusive measure designed to determine any differences in effectiveness and cost between the three methods of treatment. All group leaders (both career counselors and peer career tutors) were given time sheets (see Appendix C) on which to record their preparation time (limited to three

hours per session), training time (about one hour per session), and time required for delivery of services (1 - 1 1/2 hours per unit). Delivery of services for the directed self-study group included a half-hour group orientation meeting and three 15-minute meetings with each participant. The 15-minute meetings were scheduled in a three-hour block every two weeks. As the investigator met with the directed self-study participants, there was no preparation or training time involved.

Hourly salaries for career counselors were determined based on a national, annual average salary. In a recent newsletter, Bartimole (1984) reported salaries for career counselors in private colleges nationwide ranged from $14,000 to $18,000 per year for entry level career counselors and ranged from $22,000 to $26,000 per year for those with five years of experience. In a recent survey of career counselors in 16 southeastern states, Badders and Sawyer (1983) found 1982-1983 salaries ranged from $12,500 to $34,900 per year with a median of $18,966 for all levels of career counselors and administrators. Assuming that entry-level career counselors would not be directly involved in the training and supervision of peer career tutors, and based on the research conducted in the southeast, an anual salary of $18,500 was chosen for career counselors for the cost effectiveness analysis. Although peer career tutors were not actually paid for

their participation, the minimum wage ($3.35 per hour) was used as a standard to calculate peer career tutors' salaries because students are often paid by universities on an hourly basis. Salaries for career counselors and peer career tutors were then computed and compared for costs. Treatment differences were also considered because cost effectiveness of the methods of treatment rather than cost was being compared. As previously defined in Chpater I, the directed self-study involved more than just providing a $6.00 workbook for students. Participants actually met with the investigator every two weeks; however, these services could be provided either by career counselors or peer career tutors. Thus, these salaries were also used to determine the most cost-effective method of providing directed self-study.

Additional Data

In addition to the previously mentioned dependent measures, a Biographical Data Sheet and Evaluation Form were developed specifically for this investigation (see Appendix A). The 35-item Biographical Data Sheet requested background information in four areas: (a) general information such as birthdate, sex, race, and religion; (b) college information; (c) high school information; and (d) family information. The 30-item Evaluation Form allowed participants to evaluate their experiences in the Career Planning Course, their group leader, and PATH.

## Design

Although Oliver (1979) cited evidence to support the use of a posttest only or a Solomon four group design, a randomized pretest-posttest design (Isaac & Michael, 1971) was chosen to compare the three methods of treatment in this investigation. While the Solomon four-group design accounts for most of the potential threats to internal and external validity (Isaac & Michael, 1971), it would be difficult to use to compare three treatments. As the posttest-only design does not use a pretest, use of MANOCOVA and ANOCOVA with the pretests as covariates would not be possible although other covariates may be used. Thus, of the three most rigorous experimental designs (in terms of threats to internal and external validity) cited by Isaac and Michael, the pretest-posttest design was the most appropriate design for this investigation. The majority of the investigations of career interventions reported in Chapter II also used pretest-posttest designs. According to Isaac and Michael (1971), random selection and random assignment can control for most of the threats to internal validity and threats to external validity were reviewed as part of the strengths and weaknesses of the investigation cited in Chapter I.

## Procedure

The procedures followed were identical at both colleges and consisted of four parts: (a) recruiting students and

peer career tutors, (b) pretesting, (c) training group leaders and conducting the course, and (d) posttesting. Identical syllabi (Appendix C) and identical training sessions (Appendix D) were used at both collegs to insure that group leaders were providing the same course and participants were receiving the same course. Administrators at both colleges were helpful, particularly in recruiting students and peer career tutors. The procedures were reviewed and approved by the Human Subjects Committee at UNCG and officials at Guilford College and Elon College.

Recruiting Students and Peer Tutors

To recruit participants, a list of all eligible students was generated and mailing labels were printed. Before the beginning of the semester all eligible students received a letter (see Appendix B) encouraging them to register for the program and a return postcard (see Appendix B) on which they could indicate their interest. The letter appealed to their anticipated need to make or affirm some career decisions and offered academic credit for their participation.

Based on their response to the first letter, they received one of two follow-up letters. The letter to respondents (see Appendix B) gave them more information on the course and stated that, unless they notified the investigator otherwise, it was assumed they would be participating in the program. The letter to nonrespondents (see Appendix B) was

a second appeal to students who might be feeling the pressure of making a career decision. Those who did not respond to the follow-up letters were assumed to be uninterested in participating in the Career Planning Course and were not contacted again.

At the same time the participants were being recruited, administrators at both colleges were asked to recommend upperclass students and invite them to apply for the peer tutor positions (see letter and application in Appendix B). All applicants were interviewed by the investigator to determine (a) their interest in being a peer career tutor, (b) their curricular and extracurricular activities at the college, (c) their commitment to the liberal arts and to the college, and (d) the status of their career plans. The students who were most qualified according to these criteria were selected as peer career tutors. All of the students who were selected (a) were interested in being peer career tutors and were currently acting in similiar roles in their college (one student government president, one dorm director, two resident assistants), (b) were extensively involved in extracurricular activities and had held leadership positions in these activities, (c) if given the choice would choose the same liberal arts college again and felt their liberal arts background had been beneficial to them and their careers, and

(d) had changed their majors at least once but had some definite future career plans or options.

Pretesting

All of those students who responded either that they would participate or would like more information received a final letter (see Appendix B) which gave them information on the pretests and asked them to notify the investigator immediately should they not be able to attend any of the four pretest meetings. At the pretest meetings, the group leaders (career counselors and peer career tutors) were introduced and some background of the investigator was offered. Participants were informed that research was being conducted on the course so they would be participating in different groups. As part of the research, students were asked to complete a Consent Form (see Appendix C) which also requested some biographical data which the group leaders needed to contact them. The requirements for course credit were explained and participants were invited to sign the course roster if they were interested in receiving credit for their participation.

After answering questions, the actual testing procedures were explained. Students first completed the CMI and then the PATH Examination. As participants completed the CMI, their names were added to a previously randomized roster. Each group of six students was randomly assigned to a group

(two groups each for career counselors, peer career tutors, and independent study) and each group was randomly assigned to a group leader (the investigator conducted the independent study groups as one large group). All of the randomization was completed prior to the pretesting so students could be given group assignments at the pretesting session.

As participants completed the PATH Examination, they received their group assignment, purchased PATH, received a course syllabus (see Appendix C), and were asked to complete the first assignment prior to their first group meeting the following week.

Conducting the Career Planning Program

As suggested by Fremouw and Feindler (1978) and Jackson and VanZoost (1974), the group leaders (both peer career tutors and career counselors) conducted their small group meetings between training sessions. Thus, for example, group leaders met with the investigator on Wednesday or Thursday of one week and conducted that meeting Monday, Tuesday, or Wednesday of the following week, with that pattern continuing for six weeks.

Training Sessions. Prior to each training session, the group leaders were encouraged to complete or review the assigned exercises according to the syllabus. Each training session (see Appendix D) consisted of two primary topics: General Procedural Guidelines and Guidelines for Conducting

the Meeting. Procedural guidelines included collecting or distributing any pertinent information and reviewing the previous meeting. Group leaders were encouraged to share any relevant good experiences or problems they experienced in conducting the previous meeting from which other group leaders could profit.

The Guidelines for Conducting the Meeting included (a) a description of a brief warm-up exercise, (b) a description of the actual exercise, and (c) additional questions to be used if there was any extra time. Information or exercises from all three sections were taken directly from PATH. Figler (1979a) provided detailed directions for the group exercises while the warm-up exercises and discussion questions were taken from individual exercises in PATH by the investigator. Each training session lasted approximately one hour.

Career Planning Course. The actual content of the course consisted of the four topics previously described: the career development process and the value of a liberal arts education, specifying values (two meetings), specifying abilities, and combining values and abilities into a unique career (two meetings). A syllabus (see Appendix C) outlining each meeting and the assignments due was developed to assist both group leaders and participants. Each seminar lasted approximately 60 to 90 minutes.

The directed self-study group met with the investigator as a group once and was instructed to follow the syllabus and "General Guidelines for Students Using PATH on an Individual Basis" (Figler, 1979a, pp. 35-36). Each participant was then asked to meet with the investigator once every two weeks for 15 minutes to check on their progress and offer an opportunity to answer any of their questions. They were also invited to call the investigator at home if they had any questions or needed more time to discuss their concerns.

Posttests

At the last seminar the participants were informed of the posttesting times and asked to sign up for the one most convenient for them. Each participant then received a letter reminding them of the dates, times, and place for the posttest (see Appendix B). They were also asked to bring with them to the posttest meeting the Biographical Data Sheet and Evaluation Form which were distributed during the last meeting.

At the posttest meetings, all of the above information was collected and participants were offered the opportunity for further assistance should any of them desire it. The actual testing proceeded as did the pretesting, with the CMI given first, followed by the PATH Examination.

## Statistical Analysis

A 2 x 3 factorial design was chosen to examine the effects of the three levels of treatment (career counselors, peer career tutors and directed self-study), the colleges (Guilford and Elon), and their interaction on the two dependent variables. Multiple analysis of covariance (MANOCOVA), using the pretests as the covariate, was selected as the statistical technique to examine the main effects of the independent variables as well as their interaction on the two dependent variables (CMI and PATH Examination). Analysis of covariance (ANOCOVA) was used to determine the effects of the independent variables on each of the dependent variables individually. Because there was no control group, students' t tests were performed comparing pretest and posttest scores collapsed across the independent variables to examine the changes in participants' scores. The cost of administering each method of treatment and their effectiveness were compared to determine if any method of treatment was more cost effective than the others. The results of these analyses are reported in Chapter IV.

# CHAPTER IV

# RESULTS

The results of evaluating the Career Planning Program as described in Chapter III are divided into the four areas in which data were collected: (a) biographical data; (b) statistical analysis; (c) cost effectiveness analysis; and (d) evaluations. Biographical data from the Biographical Data Sheets were used to describe the sample, to compare participants at each college, and to compare groups which received the three levels of treatment. In the statistical analysis the results of the MANOCOVA, ANOCOVAs, and t tests are reported. The cost effectiveness analysis is a comparison of the costs of providing each method of treatment. Finally, the participants' evaluations of the course, their group leaders, and PATH were collected and tabulated from the Evaluation Forms.

## Analysis of Biographical Data

After the final session of the Career Planning Program, biographical data were collected on all subjects (see Biographical Data Sheet, Appendix A). As noted on the Biographical Data Sheet, the type of data collected fell into several categories: (a) general biographical information;

(b) college background information; (c) high school background information; and (d) family background information. Thus the following analysis is reported for each of the same categories. These data were used to summarize the characteristics of the entire sample, to compare the characteristics of the sample from each college, and to compare groups receiving each method of treatment.

Characteristics of the Entire Sample

General Biographical Information. As shown in the total column of both Table 20 and Table 21 (see Appendix E), the majority of participants resided on campus ($N$ = 58), while more than half of them ($N$ = 35) listed their home address as out of state. The majority of the participants were male ($N$ = 40) and were white ($N$ = 63). The average age of the participants, not including one older participant, was 19.28 ($SD$ = 0.92). Finally, the majority of participants ($N$ = 53) claimed Protestant religions while 8 were Catholic, 2 were Jewish, and 3 listed no preference.

College Background Information. The population was operationally defined as sophomores who had completed at least one semester but who had not completed enough credits for junior status. Thus, although the majority of participants were sophomores ($N$ = 46), there were 17 subjects categorized as freshmen and 5 categorized as juniors. All of

the freshmen were from Elon because that sample was collected in the spring semester and thus there were more eligible second-semester freshmen. Similarly, most of the juniors were from Guilford because that sample was collected during the fall semester and thus there were a few third-year students who were several credits short of being juniors.

The average number of credits completed prior to the Career Planning Program was 31.88 (SD = 13.69) while the average grade point average (GPA) was 2.52 (SD = 0.58). In terms of majors, participants were split almost evenly with 37 undecided and 31 decided about their majors.

An attempt was also made to estimate the time participants spent studying, working, and relaxing each week. These results indicated that the average time spent studying was 6.61 hours per week (SD = 9.14) while they worked an average of 17.00 hours per week (SD = 6.8) and were involved in extracurricular activities 10.68 hours per week (SD = 9.32). The relatively large standard deviations associated with these figures suggests a lot of variation among participants.

As suggested by the literature review, strong support was found for Levine's (1980) proposition that students attend college for career preparation. Clearly, that was the goal of this sample with 61 citing career preparation as a

goal. Most of the other goals were also well supported. Participants' goals for the course were also generally career oriented, with career planning cited by 46 and choosing a major cited by 9 participants.

High School Background Information. The majority of the participants attended out-of-state (N = 37), suburban (N = 28) high schools with an average size of 1353 students (SD = 845.21). In general they attained GPA's (M = 2.68, SD = 0.59) only slightly higher than their college GPA's and spent more hours studying per week (M = 10.81, SD = 6.59) than they do in college.

Family Background Information. Four of the questions in the family information were designed according to Hollingshead's (1957) Two factor Index of Social Position. Although Hollingshead designed the scale to measure the educational and occupational status of the head of the household (generally a male), this scale was also applied to the female or mother and to both parents combined. In this sample the average fathers' socioeconomic status (SES) was 22.75, the average mothers' SES was 36.13, and the average family (combined SES) was 58.29. In other areas of family information the majority of both fathers (N = 63) and mothers (N = 47) were employed. Using the midpoint of each annual income range as an average, a weighted average annual income of $55,051.00 was found.

Comparison of Participants at Guilford and Elon

Although there were more Elon participants (N = 36) than Guilford participants (N = 32), a comparison of them (See Table 20 in Appendix E) indicated that both samples were quite similar on the characteristics reported. Hopefully, both were samples from the same general target population. The similarities and differences between the Guilford and Elon College groups are described in detail below.

General Biographical Information. All of the Guilford participants resided on campus while 10 of the Elon participants resided off campus. In addition, Guilford had more out-of-state students while Elon had more in-state students. Both colleges had 14 female participants and more male than female participants. Both samples were also predominantly white with one black participant at Guilford and two black and one Hispanic participants at Elon. Finally, both samples were predominantly Protestant with Elon having more Catholic participants (N = 7) and Guilford having more Jewish (N = 2) participants and participants who indicated no preference of religion (N = 3).

College Background Information. The two major differences in the Guilford and Elon samples in college characteristics were in the class and major variables. The Elon sample contained 17 participants categorized as freshmen while Guilford had no freshman participants. Conversely,

Guilford had four junior participants while Elon had only one. The other major difference between the Guilford and Elon samples was that Guilford had more students who had declared a major while Elon had more undecided students. As previously mentioned, these differences can probably be attributed to the semester during which the course was offered.

One final difference between the two samples was that more participants at Guilford (N = 16) than at Elon (N = 7) viewed college as preparation for graduate school. On the remainder of the college information variables, participants from both colleges were similar.

High School Background Information. More participants in the Guilford sample attended out-of-state high schools while the Elon sample was almost evenly split between participants who attended out-of-state high schools and those who attended in-state high schools. Other differences showed that while Elon participants attended larger high schools, Guilford participants, on the average, attained a higher high school GPA and studied more hours per week. On the other high school variable, location of high school, participants from each sample were evenly matched.

Family Background Information. A comparison of SES between Guilford and Elon according to Hollingshead's (1957) formula revealed a slightly higher SES for Guilford

participants. The average father's SES at Guilford was 19.43 (SD = 11.10) while at Elon it was 25.60 (SD = 12.71). The average mother's SES at Guilford was 36.55 (SD = 12.51) while at Elon it was 35.73 (SD = 13.16). Combined, the average family SES at Guilford was 55.24 (SD = 15.25) while at Elon it was 60.97 (SD = 19.87).

On the other family information variables, more fathers and mothers of the Elon participants than of Guilford participants were employed while four fathers of Guilford participants were retired. Using a weighted average to determine approximate average income, the average annual family income for Guilford participants was $59,808.00 while it was $49,674.00 for Elon participants. Combined, this information indicates that the Guilford sample was of a slightly higher SES.

Comparison of Treatment Groups

Although there were some minor systematic differences in the samples at Guilford and Elon, the differences in the three levels of treatment should have been controlled through a random assignment procedure. In most cases the different characteristics were comparably distributed in the three treatment groups as shown in Table 21 (see Appendix E).

Two major differences were observed. Originally 26 participants were assigned each to the career counselor and directed self-study groups and 25 participants were

originally assigned to the peer career tutor groups. The first difference was that more data than expected were available for participants who were assigned to the career counselor treatment (N = 25) and fewer data than expected were available for participants who were assigned to the peer career tutor treatment (N = 21). However, these differences were explained by different drop-out rates in the three treatments. The second major difference between treatment levels was that all of the minorities (3 Blacks and 1 Hispanic) were assigned to the directed self-study group. The remaining differences in the characteristics appear to be random.

Summary

In general, the sample might be characterized as predominantly white, middle or upper-middle class and Protestant. There were slightly more males than females and the average age was 19. Most of the participants were sophomores having attained an average of 32 credits with an average GPA of 2.52. Slightly more than half of the participants had declared their majors, and the majority attended college and chose to participate in the course for career preparation. In general, they spent more time working and in extra-curricular activities per week than they spent studying. On the average they also spent more time studying in high school and achieved a slightly higher GPA than they did in college.

Finally, more than half of the participants came from out-of-state and the majority resided on campus. Participants in the investigation were not randomly selected but were volunteers solicited from the two colleges which met the criteria for participation in the investigation. Thus, generalization is limited to volunteers at institutions with populations similar to those just described.

Samples from each college were quite similar as were the participants in the three different methods of treatment. While the Guilford and Elon samples were generally quite similar, Guilford participants were of a slightly higher SES than the Elon participants. Despite random assignment, there were more participants in the career counselor treatment than in the other methods of treatment and all of the minority participants were assigned to the independent study method of treatment. In general, however, it was concluded that any differences between sites or methods of treatment may be attributed to chance.

## Statistical Analysis

The statistical analysis was performed to answer the primary research question: were there any differences between the three levels of treatment? Further statistical analyses were performed to test the two additional questions raised by repeating the investigation at Elon College: were there any differences between the two colleges, and was there an

interaction between the methods of treatment and the college at which they were delivered? A final question was raised subsequent to the prior statistical analyses: were there any significant pretest-posttest gains across colleges and methods of treatment? Results of these four analyses are presented below. Before reviewing the statistical analyses, however, the means and standard deviations of each dependent measure by college and method of treatment are presented in Table 9. A brief inspection of the means shows only minor differences between the methods of treatment and colleges on each dependent measure.

Treatment Differences

Multiple analysis of covariance (MANOCOVA) using the pretests as the covariates revealed no significant differences between methods of treatment ($F$ = 0.53, $p$ = .7842) (see Table 10). There were, however, significant differences attributable to all of the covariates (pretests) as follows: PATH Examination ($F$ = 4.81, $p$ = .0047); CMI Attitude Scale ($F$ = 18.82, $p$ = .001; and CMI Competence Test ($F$ = 8.89, $p$ = .0001). Thus, the pretests had a significant association with the dependent variables, but after the variance associated with the pretests was controlled for, there were no significant differences between methods of treatment.

Table 9

Means and Standard Deviations on Each Dependent Measure by College and Method of Treatment

| Method of Treatment | College | |
|---|---|---|
| | Guilford (M/SD) | Elon (M/SD) |
| Career Counselors | | |
| PATH Examination | 19.18 | 15.93 |
| | 3.52 | 3.08 |
| CMI - Attitude Scale | 34.27 | 33.29 |
| | 4.27 | 5.20 |
| CMI - Competence Test | 75.18 | 70.00 |
| | 8.29 | 11.63 |
| Peer Tutors | | |
| PATH Examination | 16.82 | 15.90 |
| | 3.25 | 3.35 |
| CMI - Attitude Scale | 34.27 | 31.50 |
| | 4.65 | 4.38 |
| CMI - Competence Test | 71.73 | 68.20 |
| | 10.84 | 9.25 |
| Directed Self Study | | |
| PATH Examination | 19.60 | 15.18 |
| | 3.44 | 5.12 |
| CMI - Attitude Scale | 34.90 | 32.00 |
| | 5.55 | 3.84 |
| CMI - Competence Test | 75.90 | 62.67 |
| | 10.49 | 13.03 |

Table 10

MANOCOVA Results for the Effect of Method of Treatment and College on Achievement and Career Maturity

| | Wilks' Lambda | F | df | P |
|---|---|---|---|---|
| Independent Variables | | | | |
| Treatment | .9455 | 0.53 | (6,112) | .7842 |
| College | .9756 | 0.47 | (3,56) | .7062 |
| Interaction | .9424 | 0.56 | (6,112) | .7596 |
| Covariates (Pretests) | | | | |
| PATH Examination | .7950 | 4.81 | (3,56) | .0047* |
| CMI Attitude Scale | .4980 | 18.82 | (3,56) | .0001* |
| CMI Competence Test | .6774 | 8.89 | (3,56) | .0001* |

*$p < .05$.

The MANOCOVA was followed by analysis of covariance (ANOCOVA) to test the effect of the independent variable on each of the dependent variables individually as recommended by Powers (personal communication, March 28, 1984), because there might have been univariate effects regardless of whether or not there were multivariate effects. The results of ANOCOVA performed on the PATH Examination posttest revealed no significant effect due to method of treatment ($F$ = 0.33, $p$ = .7064) (see Table 11). The only significant difference was attributed to the PATH Examination pretest ($F$ = 20.17, $p$ = .0001). The original alpha levels of .05 for testing significance were adjusted to .017 because three ANOCOVA's were performed as post hoc analyses of the MANOCOVA procedure (Powers, personal communication, April 11, 1984).

Similar results were found for the ANOCOVAs performed on the other two dependent variables. There were no significant differences between methods of treatment on the CMI Attitude Scale ($F$ = 1.71, $p$ = .2605) (see Table 12) or on the CMI Competence Test ($F$ = 0.65, $p$ = .5091) (see Table 13). The only significant effect on the CMI Attitude Scale posttest was the CMI Attitude Scale Pretest ($F$ = 55.93, $p$ = .0001), and the only significant effect on the CMI Competence Test posttest was the CMI Competence Test pretest ($F$ = 36.89, $p$ = .0001). Therefore, this investigation failed to reject the first null hypothesis; there were no significant

Table 11

ANOCOVA Results for the Effect of Method of Treatment, College, and their Interaction on the PATH Examination

| Source | df | SS | MS | F | P |
|---|---|---|---|---|---|
| Model | 6 | 391.381 | 65.230 | 6.37 | .0001* |
| PATH Pretest | 1 | 206.578 | | 20.17 | .0001* |
| Treatment | 2 | 6.843 | | 0.33 | .7064 |
| College | 2 | 8.117 | | 0.79 | .3832 |
| College x Treatment Interaction | 2 | 35.609 | | 1.74 | .1846 |
| Error | 60 | 614.560 | 10.243 | | |
| Total | 66 | 1005.940 | | | |

*$p < .017$.

Table 12

ANOCOVA Results for the Effect of Method of Treatment, College, and their Interaction on the CMI Attitude Scale

| Source | df | SS | MS | F | P |
|---|---|---|---|---|---|
| Model | 6 | 749.741 | 124.957 | 10.74 | .0001* |
| CMI Attitude Pretest | 1 | 650.832 | | 5.93 | .0001* |
| Treatment | 1 | 39.726 | | 1.71 | .1974 |
| College | 1 | 15.200 | | 1.31 | .2605 |
| College x Treatment Interaction | 2 | 2.644 | | 0.11 | .8928 |
| Error | 61 | 709.788 | 11.636 | | |
| Total | 67 | 1459.529 | | | |

*$p < .017$.

Table 13

ANOCOVA Results for the Effect of Method of Treatment, College, and their Interaction on the CMI Competence Test

| Source | df | SS | MS | F | P |
|---|---|---|---|---|---|
| Model | 6 | 4073.234 | 678.872 | 9.17 | .0001* |
| CMI Competence Pretest | 1 | 2731.587 | | 36.89 | .0001* |
| Treatment | 2 | 95.742 | | 0.65 | .5091 |
| College | 1 | 305.548 | | 4.13 | .0587 |
| College x Treatment Interaction | 2 | 43.805 | | 0.30 | .7450 |
| Error | 61 | 4517.398 | 74.056 | | |
| Total | 67 | 8590.632 | | | |

*$p < .017$.

differences between the career counselor, peer career tutor, or directed self-study treatments.

Differences Between Colleges

One of the two additional questions raised by repeating the investigation at Elon College was whether or not there were any differences between the two colleges. The same procedures were used to test for these differences; that is, MANOCOVA followed by three ANOCOVAs performed on each of the dependent variables individually. Similar results were also revealed. The MANOCOVA revealed no significant differences between sites ($F$ = 0.47, $p$ = .7062) (see Table 10). The only significant effects on the three dependent variables were the three covariates or pretests as reported above and in Table 12. There was no significant difference between colleges after the MANOCOVA controlled for the variance associated with the pretests.

The results of the three ANOCOVAs also revealed no significant differences between colleges on the PATH Examination ($F$ = .079, $p$ = .3832) (see Table 11), on the CMI Attitude Scale ($F$ = 1.31, $p$ = .2605) (see Table 12), or on the CMI Competence Test ($F$ = 4.13, $p$ = .0587) (see Table 13). As reported above and in Tables 11, 12, and 13, the only significant effect on each dependent measure individually was its corresponding covariate or pretest. As expected, this investigation failed to reject the null hypothesis of no

differences between colleges; there were no significant differences between Guilford and Elon Colleges.

Effect of the Treatment by College Interaction

The second question raised by repeating the investigation at Elon was whether or not there was an interaction of the method of treatment and the college. That is, would any differences in treatment be the same at both colleges? Once again MANOCOVA followed by three ANCCOVAs was used to test the null hypothesis. The results of the MANOCOVA revealed no significant effect of the method of treatment and college interaction ($F$ = 0.56, $p$ = .7596) (see Table 10). However, as reported above and in Table 10, there were significant effects on the three dependent variables attributed to the three covariates. There was no method of treatment by college interaction after MANOCOVA controlled for variance associated with the pretests.

The results of the three ANOCOVAs also revealed no significant effect due to the method of treatment by college interaction on the PATH Examination ($F$ = 1.74, $p$ = .1846) (see Table 11), on the CMI Attitude Scale ($F$ = 0.11, $p$ = .8928) (see Table 12), or on the CMI Competence Test ($F$ = 0.30, $p$ = .7450) (see Table 13). As reported above and in Tables 11, 12, and 13, the only significant effect on each dependent variable individually was its corresponding covariate or pretest. As expected, this investigation failed

to reject the null hypothesis of no method of treatment by college interaction. There were no differences in treatment which were different at each college.

Pretest-Posttest Gains

Although there were no significant differences between treatment groups, there was no control group which left unanswered the question of whether or not there was a general improvement over time by all of the treatment groups. To test this question statistically, t tests were performed on the gain scores from pretest to posttest across all levels of both independent variables. The results reported in Table 14 indicate that indeed participants made significant gains on the PATH Examination ($t$ = 4.26, $p$ = .0001) and the CMI Attitude Scale ($t$ = 3.07, $p$ = .0031), even when the alpha level was adjusted to .017 to compensate for the increased risk of Type I error due to multiple t tests (Powers, personal communication, April 11, 1984). The mean gains, however, were not substantial. Participants scored an average of 1.8 points higher (out of 30 points possible) on the PATH Examination and scored an average of 1.34 points higher (out of 75 points possible) on the CMI Attitude Scale. There was no significant gain on the CMI Competence Test ($t$ = -0.75, $p$ = .4532); in fact, the average test score fell 0.809 points. Thus, although there were no significant differences between

Table 14

T-test Results for the Gains Made from Pretest to Posttest

| Variable | M | SD | t | P |
|---|---|---|---|---|
| PATH Examination | 1.806 | 3.470 | 4.26 | -.0001* |
| CMI Attitude Scale | 1.338 | 3.589 | 3.07 | .0031* |
| CMI Competence Test | -0.809 | 8.841 | -0.75 | .4532 |

*$p < .017$.

methods of treatment, all groups did improve on two of the three measures.

Summary

The only significant effects on the dependent variables found in this investigation were attributed to the pretest covariates. There were no significant multivariate or univariate effects due to methods of treatment, colleges, or their interaction, and this investigation failed to reject all of the null hypotheses: (a) there was no significant difference in career maturity as measured by the CMI or achievement as measured by the PATH Examination between groups led by career counselors, those led by peer career tutors, and those working on a directed self-study basis; (b) there was no significant difference in career maturity and achievement between participants from different colleges; and (c) there was no significant difference in career maturity and achievement due to an interaction between the method of treatment and the college. There was, however, significant improvement across groups in achievement as measured by the PATH Examination and in career maturity as measured by the CMI Attitude Scale. Because there was no control group, these gains cannot be attributed to the treatment. However, it is unlikely that gains in specific knowledge would have occurred without the treatment.

## Cost Effectiveness

Assuming that the career treatments in general may have contributed to the gains on the PATH Examination and CMI Attitude Scale and there were no significant differences between methods of treatment, the next question is which method of treatment is least expensive to administer? All group leaders completed time sheets (see Appendix C) each week dividing their time into time spent (a) in preparation for the seminars, (b) in training to conduct the seminars, and (c) in conducting the seminars. The average time spent by the career counselors was 7.6 hours in preparation, 7.1 hours in training, and 8.6 hours in conducting the six seminars. The comparable times spent by peer career tutors were 9.1 hours in preparation, 6.9 hours in training, and 8.2 hours in conducting the 6 seminars. Assuming all group leaders attended the same training sessions and were supposed to spend the same approximate time conducting seminars, 7 hours for training and 9 hours for conducting the seminars were the times used for comparison. Preparation time, however, might vary between individuals and also between career counselors and peer career tutors, so actual average times were used for computation.

The average annual salary of career counselors previously cited ($18,000) can be divided into a weekly salary ($355.77) and an average hourly salary ($8.89) for comparison

to the minimum wage ($3.35/hour) which might be paid to peer career tutors. Although peer career tutors were not paid for their participation in the investigation, in most situations they would be compensated for their work. Therefore, it was decided to compare peer career tutors to career counselors assuming that the peer career tutors had been paid.

If an institution chose to provide the course in small groups, for example 10 groups of 5 students each for 6 sessions, the cost would be about $935.00 for career counselors and about $1,064.00 for peer career tutors including training costs. Employing peer career tutors would cost the institution $129.00 more than the cost of employing career counselors for one course. However, if the institution chose to repeat the six-week course, only the preparation and treatment costs would be added for each additional course because the professional training costs for the peer career tutors is a one-time expense. The result would be a savings of $199.00 for peer career tutors to provide the course twice for small groups or a savings of $854.00 for them to provide it four times for small groups. Clearly the savings increase over a semester or year as an institution continues to utilize peer career tutors.

Although the peer career tutor treatment was less expensive to administer, the directed self-study treatment was the least expensive as it only required one short group meeting

(1/2 hour) and three short individual meetings (15 minutes each) with each participant. Providing services for the same 50 students used for comparison between the career counselors and peer career tutors would cost the institution about $391.00 (including preparation), a savings of about $544.00. In fact the cost is less than the cost of just training peer career tutors to provide the services (about $457.00) before they even begin work. To repeat the directed self-study treatment four times over the academic year would cost about $1,606.00, a savings of about $1,280.00 to the institution beyond the savings of using peer career tutors to provide four courses. Therefore, the directed self-study treatment was the most cost-effective treatment in this investigation.

## Analysis of Evaluation Data

A final component of the data analysis is a review of how the participants evaluated the Career Planning Program. These data were collected utilizing an Evaluation Form (see Appendix A) which was completed by the participants. To aid in interpretation of the results, the evaluation was divided into several sections, each of which was analyzed by method of treatment. The components of the evaluation reported below are (a) general ratings of the meetings, PATH, and the group leaders; (b) average ratings of the major topics of the course; (c) analysis of participants' preferred treatment group; (d) identification of the most helpful component of

the course to participants; and (e) an indication of whether or not participants would recommend the course to their friends or would recommend that the college offer it to all students.

General Ratings

On several questions throughout the evaluation participants were asked to evaluate in general the meetings, PATH, their group leader, the overall experience, and their own participation. Because the questions were open ended, participants responded in different ways, generally with ratings on a 1-10 scale, ratings of A to F, or ratings of poor to excellent. These three scales were combined by the investigator into a 6-point scale ranging from very poor (1) to excellent (6) as shown in Table 15. The results, in general, are in in the fair to good range with the average rating being good. The group leaders received the highest ratings ($M$ = 4.73, $SD$ = 0.81) with the lowest variability while PATH received the lowest ratings ($M$ = 3.68, $SD$ = 1.07) with the greatest variability.

Table 15 shows participants' responses according to their treatment group. Those participants in the peer career tutors' groups tended to rate the components higher than the other two groups. The participants in the directed self study groups rated PATH higher than the other two groups and their leader (the investigator) lower than the other two

Table 15

Means and Standard Deviations of Ratings of Several Seminar Components on a 1-6 Scale by Method of Treatment

| Seminar Component | Method of Treatment: Career Counselors (M/SD) | Peer Career Tutors (M/SD) | Directed Self Study (M/SD) | Total (M/SD) |
|---|---|---|---|---|
| The seminars | 4.04<br>0.71 | 4.16<br>1.12 | 4.13<br>1.36 | 4.11<br>1.03 |
| PATH | 3.26<br>1.14 | 3.63<br>0.76 | 4.20<br>1.06 | 3.68<br>1.07 |
| My Seminar leader | 4.67<br>0.70 | 4.89<br>0.81 | 4.65<br>0.93 | 4.73<br>0.81 |
| The overall experience | 3.92<br>0.88 | 4.00<br>0.61 | 4.15<br>0.93 | 4.02<br>0.83 |
| My own participation | 3.71<br>0.75 | 4.17<br>0.92 | 3.60<br>1.39 | 3.81<br>1.05 |

Note: Ratings were from 1 (very poor) to 6 (excellent) on a scale developed by the investigator.

groups. PATH was the only treatment participants in the directed self-study group had with just minimal involvement with the leader (one short group meeting plus three 15-minute individual meetings). The directed self-study group participants rated their own participation lower than the other two groups; they were not required to attend group meetings.

Major Course Topics

Questions 1-11 of the evaluation form were designed to elicit assessments of the goals of the course on a 1-5 Likert scale ranging from "of no help" (1) to "very helpful" (5). The questions asked to what degree the meetings were helpful to the participants in achieving these goals individually and in providing an opportunity to compare themselves with other students in the group meetings? The average rating in Table 16 was between the ratings "of some help" and "helpful". Assisting participants in "identifying work values" received the highest rating ($M$ = 3.89, $SD$ = 0.76) while "comparing my skills and abilities with others" ($M$ = 3.13, $SD$ = 1.00) and "learning how to market my liberal arts background" ($M$ = 3.14, $SD$ = 0.96) received the lowest ratings. Identifying values was a major topic of the course (two meetings out of six) and of PATH (6 exercises out of 18), while identifying skills was covered in only one meeting and three exercises and the discussion of the liberal arts was only part of one meeting and part of one chapter in PATH.

Table 16

Methods and Standard Deviations of the Goals of the Course by Method of Treatment Rated on a 1-5 Likert Scale

| Goals | Method of Treatment: Career Counselors (M/SD) | Peer Career Tutors (M/SD) | Directed Self Study (M/SD) | Total (M/SD) |
|---|---|---|---|---|
| To develop some career objectives | 3.42<br>0.83 | 3.70<br>0.73 | 3.70<br>0.92 | 3.59<br>0.83 |
| To compare your career objectives to other students' career objectives | 3.57<br>0.59 | 3.70<br>0.92 | 2.85<br>1.39 | 3.38<br>1.05 |
| To make some career decisions | 3.33<br>1.05 | 3.25<br>0.79 | 3.70<br>0.98 | 3.42<br>0.96 |
| To compare your career decisions with other students' career decisions | 3.42<br>0.78 | 3.45<br>0.76 | 2.65<br>1.04 | 3.19<br>0.92 |
| To identify your work values | 3.96<br>0.91 | 3.90<br>0.64 | 3.80<br>0.70 | 3.89<br>0.76 |
| To compare your work values with other students' work values | 3.63<br>0.71 | 3.60<br>0.68 | 2.60<br>1.19 | 3.30<br>0.99 |

Table 16 (continued)

| Goals | Method of Treatment: Career Counselors (M/SD) | Peer Career Tutors (M/SD) | Directed Self Study (M/SD) | Total (M/SD) |
|---|---|---|---|---|
| To identify your abilities and skills | 3.71<br>1.04 | 3.42<br>0.96 | 3.30<br>1.30 | 3.49<br>1.11 |
| To compare your abilities and skills with other students' abilities and skills | 3.46<br>0.72 | 3.45<br>0.76 | 2.40<br>1.14 | 3.13<br>1.00 |
| To create your own career | 3.04<br>1.20 | 3.10<br>0.97 | 3.45<br>0.89 | 3.19<br>1.04 |
| To appreciate your liberal arts background | 3.33<br>1.13 | 3.70<br>0.92 | 3.65<br>0.99 | 3.55<br>1.02 |
| To learn how to market your liberal arts background? | 2.96<br>1.00 | 3.15<br>0.99 | 3.35<br>0.88 | 3.14<br>0.96 |
| Average Total Evaluation | 38.00<br>7.05 | 38.84<br>5.75 | 35.45<br>7.24 | 37.44<br>6.79 |

Note: 5 = Very Helpful
4 = Helpful
3 = Of Some Help
2 = Of Little Help
1 = Of No Help

Feedback from the group leaders also suggested that students had the most difficulty identifying their own skills and abilities.

A comparison of the ratings of the goals for the three methods of treatment in Table 16 showed that those participants in the peer career tutor groups rated the achievement of these goals higher overall ($M$ = 38.84, $SD$ = 5.75) than either of the other two groups with the participants in the directed self-study groups rating them lowest overall ($M$ = 35.45, $SD$ = 7.24). Presumably because they had no group meetings, and therefore no opportunity to compare themselves with other participants, the participants in the directed self-study groups rated all of the items comparing themselves to others lower than the other groups. The participants in the directed self-study group rated the course as helpful or more helpful than the other groups in developing some career objectives ($M$ = 3.70, $SD$ = 0.92), making some career decisions ($M$ = 3.70, $SD$ = 0.98), creating their own careers ($M$ = 3.45, $SD$ = 0.89), and learning how to market their liberal arts backgrounds ($M$ = 3.35, $SD$ = 0.88), however. This supports the cost effectiveness analysis which revealed the directed self-study treatment as the most cost effective.

Preferred Treatment Group

Another way chosen to evaluate the course was to determine which method of treatment participants would have

preferred. Would they choose their own method of treatment or another method of treatment? Table 17 shows that the majority of participants regardless of method of treatment would have preferred to work with a career counselor (N = 36), followed by a preference for peer career tutors (N = 13), and directed self-study (N = 9). The majority of participants who chose career counselors or directed self-study as their preferred treatment were in groups with career counselors (N = 17) or in directed self-study groups (N = 7) respectively. A possible element of confusion in this comparison is that the investigator was identified as a career counselor so participants in the directed self-study groups may have chosen career counselors because they liked working with the investigator. The majority opting for a group with a peer career tutor was evenly split between those in peer career tutor groups and those in directed self-study groups. In summary, although the majority of participants expressed a preference for working with a career counselor, half of the participants actually preferred the type of group to which they were randomly assigned.

Most Helpful Component

The PATH workbook, the group meetings, and the group leaders were the major components of the Career Planning Program, so participants were asked to identify that component which was most helpful to them. The results shown in Table

Table 17

Preferred Method of Treatment (Frequency) by Method of Treatment

| Preferred Treatment | Method of Treatment | | |
|---|---|---|---|
| | Career Counselors (N = 25) | Peer Career Tutors (N = 21) | Directed Self Study (N = 22) |
| Career counselors (N = 25) | 17 | 11 | 8 |
| Peer career tutors (N = 21) | 3 | 5 | 5 |
| Directed self study (N = 22) | 1 | 1 | 7 |

Table 18

The Most Helpful Component of the Course (Frequency) by Method of Treatment

| | Method of Treatment | | | |
|---|---|---|---|---|
| Preferred Treatment | Career Counselors (N = 25) | Peer Career Tutors (N = 21) | Directed Self Study (N = 22) | Total (N = 68) |
| Seminars | 14 | 10 | 1 | 25 |
| Group Leader | 10 | 9 | 8 | 27 |

18 confirmed some previous observations (see Table 14) that the leaders were evaluated by the majority of participants as being the most helpful component (N = 27), followed by the group meetings (N = 25) with the PATH workbook receiving the fewest votes (N = 17).

As was previously shown in Table 15, the participants in the directed self-study group were the ones who rated PATH higher than the other two components. Also, as might be expected, since they had no group meetings, the participants in the directed self-study group rated the meetings as least helpful. The participants in both the career counselors' groups and the peer career tutors' groups rated the meetings as the most helpful component and PATH as the least helpful component.

Recommendations

The final measure of the program's success was whether or not participants would recommend it to a friend or recommend that their college offer it to all students. Table 19 shows the recommendation of participants by method of treatment. The table shows (a) the number of participants who would recommend the course to a friend compared to the number who would not recommend it to a friend (columns 1 and 2) and (b) the number of students who would recommend that their college offer the course to all students (not just sophomores)

Table 19

Recommendations of the Course (Frequency) by Method of Treatment

| Preferred Treatment | Method of Treatment: Career Counselors (N = 25) | Peer Career Tutors (N = 21) | Directed Self Study (N = 22) | Total (N = 68) |
|---|---|---|---|---|
| Would recommend the course to a friend | | | | |
| yes | 17 | 13 | 18 | 48 |
| no | 3 | 2 | 2 | 7 |
| Would recommend that college offer the course to all students | | | | |
| yes | 21 | 17 | 17 | 55 |
| no | 1 | 1 | 0 | 2 |

compared to the number who would not recommend that their college offer it to all students.

In this area the program received its highest rating with 48 participants saying they would recommend it to a friend and 55 participants saying that their college should offer it to other students. There were no significant differences between the recommendations of participants in different methods of treatment. Based on these recommendations, both colleges would be advised to improve the program in the previously suggested areas and continue to offer it to other students.

Summary

In general the Career Planning Program received an average rating of good with the group leaders receiving the highest rating while PATH received the lowest rating. Between treatment groups, peer career tutor groups rated the program higher than the other treatment groups. Concerning the ability of the program to assist students in achieving goals in the major topic areas, the participants rated the program on the average as helpful. Again, the directed self-study groups rated the program higher than the other treatment groups.

Despite generally higher evaluations from participants in the peer career tutor groups, participants reported that they would prefer working with career counselors. Choice of

the most helpful component of the program confirmed the general ratings with group leaders rated as most helpful and PATH rated as least helpful. When broken down by methods of treatment, those groups which had group meetings (peer career tutors and career counselors) rated their meetings as most helpful. Finally, regardless of method of treatment, most participants recommended the program to their friends and recommended that their college offer the program to all students.

## Chapter Summary

Statistical analysis revealed no significant differences in the three dependent variables between methods of treatment and colleges and their interaction. Thus this investigation failed to reject all three null hypotheses. All participants made significant gains on the PATH Examination and the CMI Attitude Scale, although without a control group, these gains cannot be attributed solely to the treatment.

Despite the lack of statistically significant differences between methods of treatment, the cost effectiveness analysis revealed that directed self-study was the most cost effective approach. Finally, results of the analysis of the evaluation data revealed that the leaders were the most highly rated component of the program. Some interpretations and implications of these results along with some

recommendations for other institutions and other researchers are offered in the next chapter.

# CHAPTER V

## DISCUSSION

A career-planning program was developed based on the information reported in the literature review (Chapter II) which suggested that (a) liberal arts majors, perhaps more than other majors, need career guidance to prepare themselves for the job market; (b) short-term, behavioral career interventions were the most popular and most rigorously tested interventions; and (c) because of the didactic nature of the interventions, a tutoring approach rather than a pure counseling approach, using peer career tutors and professional career counselors, was recommended. Additional research in Chapter II suggested that the quality of research in career guidance needs improvement, particularly in terms of using more rigorous experimental designs, using more standardized dependent measures, and using more structured, easily replicable treatments. This investigation was designed according to these recommendations to answer the primary research question: would there be differences in career maturity and achievement between groups led by career counselors, those led by peer career tutors, and those working on a directed self-study basis? An additional question asked which method of treatment was most cost effective?

Finally, two questions were raised by repeating the investigation: would there be differences in career maturity and achievement (a) between participants at the two colleges chosen for the investigation or (b) due to an interaction between the methods of treatment and the colleges at which the program was offered?

## Interpretation and Implications

The purpose of this section is to interpret and discuss the implications of the results. The interpretations are presented in the same areas as the results: biographical data, statistical analysis, cost effectiveness, and evaluation.

### Biographical Data

The analysis of biographical data described characteristics of the sample of volunteers from the accessible population of Guilford and Elon Colleges. As previously suggested by Bracht and Glass (1968) generalization is from the sample to the accessible population and then from the accessible population to the actual target population (liberal arts majors in all small, private, liberal arts colleges). It was suggested that the results observed in this investigation may also be expected to occur in other institutions with similar characteristics as Guilford and Elon. Comparison of the characteristics for the students at the two colleges showed that the major difference between Guilford and Elon participants was that Guilford participants were of slightly higher socioeconomic

status. Also the fact that there were no multivariate or univariate significant differences on the three dependent measures between the two colleges supports the finding that the effects of the treatment were similar at both colleges. The findings therefore appear to generalize across both institutions. To the extent that other small, private liberal arts institutions have similar populations, they may expect similar results. While it seems likely, based on Fretz's (1981) findings and those of the literature review in Chapter II of this investigation, that these results may be repeated with any other sample of liberal arts majors, the investigator is unable to make that prediction without knowledge of the characteristics of the target population. Using groups from two different colleges was an attempt in this investigation to respond to the threats due to the external validity problem of population validity.

Comparison of results at different colleges where different group leaders were used to implement the treatment was also an attempt to respond to the threat to external validity due to the interaction of the personal characteristics of the group leaders and the treatment. That is, the effectiveness of any method of treatment could not be attributed to the strength or weakness of any particular leader because there was more than one leader assigned to each method of treatment.

An additional limitation of this investigation was the low response rate to the course (11.75% of the students who were invited to participate from both colleges) and the low participation rate (57.63% of the students who initially agreed to participate from both colleges). While the literature clearly suggested that liberal arts students need this type of career guidance, the students apparently did not recognize that need or perhaps considered it hopeless. Figler (1979b) may have identified such a situation when he characterized liberal arts majors as "reluctant dragons" who do not seek career guidance until late in their college careers. Weaver and Haviland (1980) also reported that liberal arts majors tend not to take advantage of the educational opportunities offered to them. While all of the students who dropped out of this investigation and could be located either by phone or by mail reported that they did so because of lack of time, Figler (1979b) listed a variety of other possible reasons. Two of Figlers' factors which may have influenced the low rate of involvement in this investigation are (a) liberal arts' majors inability to plan their futures beyond the present and (b) their expectation that their career concerns may be quickly resolved with one visit to the career planning office.

The low response and participation rates in this investigation may actually be characteristic of liberal arts

majors, and thus may be expected in other investigations. Nevertheless, the generalization of these results is limited to those students who volunteer to participate in the investigation. Thus, the population to whom the results of this investigation may be generalized are students attending small, private, liberal arts colleges who are white, middle to upper-middle class, 19-year-old sophomores who attend college for career preparation and who volunteer to participate.

Two other observations may be noted: (a) as suggested by Levine (1980, 1983), participants in this investigation attended college to gain some career preparation over all other goals, and (b) contrary to reports by Weaver and Haviland (1980) and Figler (1979b) that liberal arts majors tend to defer making career decisions, about half of the participants in this investigation had chosen a major. Consideration of these two findings suggests that since students are seeking career preparation and need some assistance in choosing a major, institutions must provide assistance to help students prepare themselves for their careers. As Herr and Cramer (1984) suggested, adequate career preparation will not just happen nor are the home and community able to provide the necessary assistance.

Implications of Statistical Analysis

While there were no significant multivariate or univariate differences between methods of treatment, colleges, or due to the interaction of methods of treatment and colleges, there were significant pretest-posttest gains on the PATH Examination and the CMI-Attitude Scale across methods of treatment and colleges. However, when analyzing the data in this manner the design of the experiment is a one-group pretest-posttest design, a weaker pre-experimental design than the pretest-posttest design used for this investigation and discussed in Chapter III (Campbell & Stanley, 1963; Isaac & Michael, 1971). Before drawing any conclusions, the threats to internal and external validity of the weaker one-group pretest-posttest design must be reviewed.

Internal Validity. The most likely rival hypotheses in this investigation were maturation, selection-maturation interaction, and testing. Although each may have contributed to the gains in achievement and career maturity, it seems likely that the treatment also contributed to the gains. Certainly the treatment affected the gains on the PATH Examination because the examination was based on specific content of which participants had no prior knowledge while the CMI was not content specific. Thus it is less clear whether or not gains on the CMI Attitude Scale were the result of the treatment. Assuming that the treatment was at

least partially responsible for the pretest-posttest gains, and since there were no statistically significant differences between treatments, all three levels of treatment were equally effective. This confirms Fretz's (1981) conclusion that most career treatments are effective. The literature review reported in Chapter II also confirmed this conclusion as 82% of the 57 investigations showed some improvement. Assuming the treatment was effective, to what population may it be generalized?

External Validity. Possible threats to external validity with the one group pretest-posttest design are the interaction effects of selection biases and the treatment, the reactive effect of pretesting, and the reactive effects of experimental procedures (Campbell & Stanley, 1963; Isaac & Michael, 1971). All threats are also threats to the external validity of the original pretest-posttest design of the investigation and were discussed in Chapter I. Therefore, the results can be generalized only to volunteers from similar small, private liberal arts colleges who receive the same systematic career-planning program using PATH and dividing it into the four topics to be covered over six meetings. Actually career counselors may discover better results if they move at the participants' pace (5-8 sessions) and eliminate the tape recorders.

Summary. Although the analysis of gain scores involves a weak, pre-experimental design, results suggested that any method of treatment would be effective in assisting motivated volunteers with their career plans. Fretz and Leong (1982) suggested that it is those participants who are ready and able to make some career plans who benefit most from typical interventions. The experience of the investigator with approximately a third of the participants (directed self study groups) suggests that most participants were ready and able to make or confirm some career plans. Similar results may be expected with other liberal arts volunteers who are equally ready and able to make some career plans.

## Cost Effectiveness

If there were no statistically significant differences between treatments, which is more cost effective or less expensive to adminster? As revealed in Chapter IV, clearly the directed self-study option is the least expensive method of treatment. Although the idea of pure independent study--that is, simply giving students PATH to work with independently--does not seem effective, perhaps the limited contact with the career counselor in this investigation is all the assistance that motivated volunteers need. In fact, many careers require employees to work with limited supervision, so perhaps this is good practice for entering the world of work.

Evaluation

Results of the evaluation showed that the majority of the participants would recommend the program to their peers and recommended that their college make the seminar available to all students with some modifications. One of the modifications implied by the evaluations would be to replace PATH or certain parts of it, particularly the skills exercises, with another workbook. Participants were confused about how to complete the skills exercises (Exercises 7 and 8) and had difficulty understanding how more general skills they had already developed (e.g., writing, decision making, communications) could help them in their careers. They attended college to learn or develop more specific job-related skills. Similarly, participants had difficulty conceptualizing how fantasies (Exercise 1) could ever lead to a career. Participants seemed to be focusing only on specific, job-oriented skills, values, and interests.

Participants also evaluated the group leaders as the most important component and showed a clear preference for working with career counselors, although, overall, about half preferred the type of group to which they were assigned. Although students said they would prefer working with a career counselor, the peer career tutor treatment was actually evaluated by the participants as being more effective, overall, than the other two. Thus the effectiveness of

the program and the use of peer career tutors was supported by participants' evaluations.

## Summary

Despite the weaknesses of a one-group pretest-posttest design, it was concluded that the treatment and possibly maturation, testing, and the selection-maturation interaction contributed to the gains on the PATH Examination and the CMI Attitude Scale. The Career-Planning Program may be expected to assist other liberal arts majors who are similar to the sample tested and who are motivated enough to volunteer for the experience. Finally, although an institution might choose to use all three methods of treatment, the directed self-study treatment was determined to be the most cost-effective method of treatment. Based on these interpretations of the results, some recommendations follow.

## Recommendations

The results of this investigation combined with results of previous investigations reported in Chapter II can be used as a basis for some recommendations. A warning to other institutions is that no significant statistical differences between treatments were found in this investigation. Thus the following recommendations are based on a weaker experimental design with several threats to internal and external validity. The recommendations are those of the investigator based on an assumption that all treatments were effective

which is based on the results of this investigation as well as previous investigations plus the cost effectiveness analysis and participants' evaluations. The recommendations below are divided into (a) recommendations for institutions which are considering adding a career-planning program or improving their current program and (b) recommendations for future researchers.

Recommendations for Other Institutions

Because, as Fretz (1981) suggested and as found in this investigation, all interventions are effective, it is recommended that other institutions consider a comprehensive career-planning program with several components. The employment of career counselors to develop and administer any career-planning program is a primary requirement. Results of this investigation suggest that using career counselors and PATH to provide a directed self-study program is a cost effective means of providing more services to more students.

Participants' evaluations revealed that they favored the peer career tutor treatment above the other two, however. Should an institution be able to afford the additional expense of training and supervising peer career tutors, this option also allows the institution to reach more students who do not normally volunteer for help but may need it the most. That the peer career tutors also grow from the experience of assisting other students is another reason for recommending

the employment of peer career tutors as part of a career-planning program. The fact that peer career tutors were not paid in this investigation, however, suggests caution in generalizing the results to other institutions. While the salary paid to career counselors by their colleges may have been a motivating factor, the peer career tutors had no such motivation. Perhaps paying peer career tutors would make them more effective. The potential impact of paying peer career tutors was not measured in this investigation.

If peer career tutors are used, they should be trained to accomplish two tasks: (a) recruitment of students and publicity of all career-planning services, and (b) provision of a career-planning program for their peers. As peer career tutors live and attend classes with other students and represent the career-planning office, they are in a unique position to recommend those services, particularly to those students who are most in need of them yet reluctant to go voluntarily go to the career-planning office. Results of this investigation revealed no statistically significant differences between methods of treatment so the use of peer career tutors should be equally effective, although more expensive.

In addition to providing directed self-study services and training peer career tutors, career counselors might also teach career-planning programs. Although not specifically

investigated in this research, the review of empirical investigations reported in Chapter II revealed that career courses were the most effective interventions even though they were less rigorously investigated. Therefore, career counselors should also offer their services in career-planning courses for students who prefer that option if the institution can afford it.

Such a comprehensive approach is needed because, while students in higher education need and expect assistance in planning their careers, they differ in the level of these needs so they will profit from different programs. While some may work well with just a workbook, others will need more help from either a career counselor or peer career tutor and others will profit most from a semester-long course. Thus institutions should provide a variety of programs to meet individual needs. As reported in Chapter II after a review of empirical investigations, if forced to choose one effective component, short-term behavioral interventions are recommended. Results of this investigation support the directed self-study option to provide those services.

If, as suggested in Chapter I, students are as much in need of career planning as suggested by Herr and Cramer (1984) and Levine (1980, 1983), and liberal arts majors are more in need of career planning, institutions need to find a way to reach more students who have these needs. These

career planning needs when considered with the low response and participation rates in this investigation suggest that either (a) students really do not have these needs, (b) they do not recognize these needs, or (c) they do not feel confident that anything can be done to help them. Further research is needed to determine whether liberal arts students have a need for career planning and, if so, how institutions can provide and market good services.

Recommendations for Future Research

Previous research has revealed that almost any career intervention is effective although much of the research was flawed because of methodological weaknesses. The results of this investigation verified those previous findings when attempts were made to design an investigation with more methodological rigor. Thus, the question still remains of whether or not there are any significant differences between treatments. Further, the effects of long-term versus short-term methods of treatment were not explored in this investigation. Thus, an investigation comparing the results of short-term, long-term, and directed self-study treatments is recommended.

A question related to the differences in methods of treatments is how well students with different needs might respond to each treatment? That is, for example, do students who are less career mature and who are interested in taking a

semester-long course profit most from the long-term, short-term, or directed self-study method of treatment? Similarly, do those students who are more career mature and more interested in working independently profit most from the long-term, short-term, or directed self-study method of treatment? Fretz and Leong (1982) reported that it is primarily the students who are more career mature and more ready to make some career plans who benefit most from career planning services. If this is true, research is needed to discover how career counselors can serve other students who are less career mature and thus in greater need of their assistance.

Finally, related to the differences between students' needs is the question of whether liberal arts majors are less career mature than their peers in other majors? If so, which method of treatment, if any, would better serve their needs? Similarly, a comparison of methods of treatment with different majors would add to the knowledge in career planning. Therefore three areas which need future research are comparisons of (a) different lengths of treatment (short-term versus long-term), (b) how students at different levels of career maturity respond to different methods of treatment, and (c) how liberal arts majors versus their peers in other majors respond to different methods of treatment.

Future researchers should also consider using a control group because there may be no differences between treatment

groups but only between treatment versus no treatment. Investigations in which researchers can randomly select their participants rather than seeking volunteers would also be informative.

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# APPENDIX A

## Instruments

PATH Examination

Biographical Data Sheet

Evaluation

Career Planning Seminar

PATH Examination

Name _____ Date _____

Group _____

Directions

Please circle the letter corresponding to the best answer for the questions below. Although more than one answer may be correct there is one best answer for each question. If you wish to change an answer please erase completely and/or cross out (x) the incorrect answer. There is no time limit so please take as much time as you need to answer all of the questions. There is also no penalty for guessing so it is to your advantage to answer all questions.

If you have no further questions, please begin.

1. The assumption behind "creative vocation-hunting" is that:

   a. there are unique ways to find jobs which you must learn in order to find the best career for you.
   b. there are no jobs specifically for liberal arts majors so you must be creative in your job search.
   c. only people who are creative in their job search strategies will get an interview or a job.
   d. if you are willing to look for the right situation, it is possible to satisfy several of your career needs.

2. Your skills and abilities are developed:

   a. as a result of some specific training.
   b. in college.
   c. in many of life's experiences.
   d. on the job.

3. Communication, thinking, and human relations skills (liberal skills) are:

   a. in demand in the job market.
   b. skills developed by liberal arts majors.
   c. transferrable between a variety of occupations.
   d. valuable only to management/administrative positions.

4. A liberal arts education will likely:

   a. cause you problems throughout your career.
   b. make it difficult to compete for your first job but pay off as you develop job experience.
   c. not affect your career much at all.
   d. pay off if you develop a specialty through graduate training.

5. Which of the following are examples of work values?

   a. administering, calculating, coordinating, deciding
   b. career planning, choosing a major, interviewing, getting a job
   c. helping society, creativity, recognition, independence
   d. all of the above

6. In identifying your abilities you should compare yourself only to:

   a. other college students.
   b. workers who have been performing the job for at least 5 years.
   c. your professors.
   d. yourself.

7. Work is viewed by many people as:

   a. an activity that is necessary to support their lifestyles.
   b. a potential source of satisfaction.
   c. a necessary evil.
   d. clearly an activity that is separate from leisure activities.

8. Choosing a career is:

   a. a continuous process that extends over a lifetime.
   b. a one-time decision based on your first job.
   c. a one-time decision based on your college major.
   d. more difficult for liberal arts majors.

9. If a friend of yours is having difficulty clarifying his/her values yet is always involved in social issues such as cleaning up the environment and developing new energy sources, you might find that he/she values:

   a. aesthetics and community.
   b. excitment and moral fulfillment.
   c. helping society and creativity .
   d. working under pressure and making decisions.

10. Your strategy for making career decisions during college might include any of the following except:

   a. doing an independent study involving careers in which you are interested.
   b. taking an interim job.
   c. going to professional meetings.
   d. doing information interviews.

11. Since employers may not know what liberal arts majors can offer their companies you might make yourself marketable by doing any of the following except

    a. becoming more aware of your work-related skills so you will be prepared to discuss them with potential employers.
    b. changing your major or minor to a subject that will help you to develop more appropriate skills.
    c. creating your own career based on your values and abilities.
    d. looking for problems you are interested in solving and organizations which are also interested in their solution.

12. Fantasy

    a. creates unrealistic expectations when used in the career planning process.
    b. is fundamental to the career planning process.
    c. is irrelevant to the career planning process.
    d. is perhaps the most effective stimulus to the career planning process.

13. An effective strategy for job hunting after college might include any of the following except:

    a. doing information interviews and asking the interviewee to refer you to other organizations or people.
    b. selecting the geographical area in which you would like to work.
    c. sending out resumes to all potential employers.
    d. taking an interim job.

14. Your work values include all of the following except:

    a. your attitudes toward work.
    b. your achievements.
    c. your career fantasies.
    d. things you would like to change in society.

15. Judgements about how your values and needs fit a job are best made by:

    a. career counselors.
    b. employers.
    c. vocational tests.
    d. you.

16. A functional skill is:

    a. an ability that is applicable to a variety of jobs.
    b. an ability that is specific to a particular job.
    c. a minimal ability required to perform a job.
    d. a specific ability that is required for one to function well in a job.

17. Considering what is required by many employers in the job market:

    a. everyone should major or minor in the liberal arts to develop as persons.
    b. it is surprising that the liberal arts have survived this long.
    c. liberal arts majors will need additional training in order to succeed.
    d. the liberal arts should be abolished as a major.

18. Creating a new career involves blending parts of existing occupations into a new career which requires:

    a. finding an employer who is willing to let you alter your job responsibilities.
    b. looking at the many different abilities you posses (divergent thinking).
    c. looking for the best job for you (convergent thinking).
    d. organizing a group of employees who would like to trade responsibilities with you.

19. Work-related values may best be identified from all of the following <u>except</u>:

    a. enjoyable activities.
    b. areas in which you have the most skill.
    c. situations which motivate you.
    d. people and situations in your environment.

20. The <u>best</u> career decisions are made by:

    a. looking at your probability of success in and the values you place on your alternatives.
    b. narrowing the alternatives by eliminating the options you definitely do not desire.
    c. trial and error.
    d. whichever method or combination of methods provides consistent results for you.

21. Career decisions should reflect:

    a. you as a total person.
    b. your abilities.
    c. your major.
    d. your values.

22. In order to create your own career, you should do all of the following except:

    a. define your career objective precisely and do not accept a job that does not meet your requirements.
    b. identify all of the elements you want in a job.
    c. look for problems which need to be solved and think of creative solutions.
    d. work in several different jobs which allow you to gain knowledge in a variety of fields.

23. Your choice of an occupation should be based on:

    a. supply and demand of the job market.
    b. your college major.
    c. your potential for success compared to others.
    d. your skills, interest, and values.

24. Which of the following qualities characterize a "marketable" applicant or a good employee in any field?

    a. a high college grade point average.
    b. participation in extracurricular activities in college.
    c. adaptability, motivation, and skills.
    d. the appropriate college major.

25. You might reality test your image of a job by all of the following methods except:

    a. observing someone doing the job.
    b. talking with other people who are doing the job.
    c. watching TV programs depicting someone working on the job.
    d. teaching someone else who is interested in the job what you have discovered about the job.

26. The skills required by employers in today's society are:

    a. communication, thinking, and human relations skills.
    b. leadership/management, budgeting, and computer skills.
    c. problem solving skills.
    d. technical skills in a particular field of expertise.

27. Your values:

    a. are less important to your career than your skills.
    b. may not legally be considered by an employer in hiring you.
    c. should not interfere with your performance of your job.
    d. will likely influence the way you work and the organization for which you work.

28. A job in which you, as a liberal arts major, would likely find the most pleasure and fulfillment would be one that:

    a. conflicts with your values.
    b. challenges you to apply your broad knowledge to specific problems in areas you value.
    c. demands special expertise.
    d. is compatible with your values.

29. Liberal arts majors have difficulty getting jobs because:

    a. employers do not know what to expect from them.
    b. employers do not need their skills.
    c. employers have found that liberal arts majors require more training than other majors.
    d. they do not have any skills to offer employers.

30. All of the following are considered chief motivators for people who aspire to leadership roles <u>except</u> the desire:

    a. to help people.
    b. for money.
    c. for power.
    d. for status.

Career Planning Seminar
Biographical Data Sheet

Please provide the following information as completely and accurately as possible by providing short answers or circling the appropriate response. All of the information will be kept confidential.

Thank you.

GENERAL INFORMATION

1. Name _____

2. Local Address _____

_____

3. Local Phone # _____

4. Home Address _____

_____

5. Birthdate _____ 6. Sex _____

7. Race/National Origin _____ 8. Religion _____

COLLEGE INFORMATION

9. Classification (circle one): Freshman Sophmore Junior Senior

10. # of Credits Completed prior to Fall Semester 1983 _____

11. GPA _____

12. Major (if declared or write "undeclared") _____

13. Total hours spent (a) studying per week _____ (b) working per week _____

14. Part-time and summer jobs (job titles such as salesperson or waiter/waitress

_____

_____

15. Extracurricular Activities (sports, clubs) _____

_____

16. Hours spent in extracurricular activities per week _____

17. What do you hope to gain from your college experience? (circle the letter of as many as apply)

    a. knowledge and stimulation of new ideas

    b. preparation for a career

    c. preparation for graduate school

    d. campus activities

    e. friends and social activities

18. What was your reason for participating in this seminar? _____

_____

HIGH SCHOOL INFORMATION

19. High School _____

20. Address (City, State) _____

21. Size of School (approximate number of students) _____

22. Location of school (circle one): Rural Urban Suburban

23. Date of Graduation _____

24. Program (e.g., College Prep or vocational) _____

25. GPA _____ 26. Hours studied per week _____

27. Extracurricular Activities (sports, clubs) _____

_____

28. Part-time and summer jobs (job titles) _____

_____

## FAMILY INFORMATION

29. How much formal education did your father complete?

    a. less than 7 years of school

    b. Junior High School

    c. Some High School

    d. High School Graduate

    e. Some College

    f. College/University Graduate

    g. Graduate/Professional Training

    h. Do not know

30. How much formal education did your mother complete? (Write the appropriate letter from the categories above) _____

31. Is your father currently: _____ employed _____ unemployed _____ retired

32. Is your mother currently: _____ employed _____ unemployed _____ retired

33. When your father is working, what kind of work does he do?

    a. Homemaker

    b. Blue-collar worker, skilled or unskilled manual employee

    c. Clerical or sales worker, technician

    d. Administrative personnel (insurance agent, service manager, etc.), owner of a small business (bakery, clothing store, etc.), semi-professional (commercial artist, photographer, travel agent, etc.)

    e. Business manager (branch manager, personnel manager, etc.), owner of medium sized business (stores, jeweler, etc.), professional (accountant, nurse, school teacher, etc.)

    f. Executives (bank vice-president, government official, etc.), owner of large business (several stores, contractor, etc.), major professional (CPA, physician, college teacher, clergy)

    g. Do not know

34. When your mother is working, what kind of work does she do? (Write the appropriate letter from the categories above) _____

35. What is your approximate family income (mother and father combined)?

a. less than $10,000/year

b. $10,000 - $25,000/year

c. $25,000 - $50,000/year

d. $50,000 - $100,000/year

e. greater than $100,000/year

f. Do not know

Career Planning Seminar
Evaluation

We appreciate your participation in the Career Planning Seminar and would like your evaluation of how well the seminar helped you in your career planning. Please respond to the following questions and add any additional comments you wish to make on the back of the page. Your comments will be held in confidence.

Please bring this evaluation with you to the posttests.

Thank you.

Jim Pickering

Evaluate the following components of the career planning seminar according to the following scale:

VH - Very Helpful
H - Helpful
S - Of Some Help
L - Of Little Help
N - Of No Help

How helpful were the seminars in assisting you to:

| | | | | | | |
|---|---|---|---|---|---|---|
| 1. | Develop some career objectives? | VH | H | S | L | N |
| 2. | Compare your career objectives to other students career objectives? | VH | H | S | L | N |
| 3. | Make some career decisions? | VH | H | S | L | N |
| 4. | Compare your career decisions with other students' career decisions? | VH | H | S | L | N |
| 5. | Identify your work values? | VH | H | S | L | N |
| 6. | Compare your work values with other students' work values? | VH | H | S | L | N |
| 7. | Identify your abilities or skills? | VH | H | S | L | N |
| 8. | Compare your abilities or skills with other students' abilities or skills? | VH | H | S | L | N |
| 9. | Create your own career? | VH | H | S | L | N |
| 10. | Appreciate your liberal arts background? | VH | H | S | L | N |
| 11. | Learn how to market your liberal arts background? | VH | H | S | L | N |

12. Comments on above statements:

13. The seminar(s) which were <u>most</u> helpful to me were:

14. The seminar(s) which were <u>least</u> helpful to me were:

15. In general, I would rate the seminars:

<u>PATH</u>

16. The exercises in <u>PATH</u> which were <u>most</u> helpful to me were:

17. The exercises in <u>PATH</u> which were <u>least</u> helpful to me were:

18. In general, I would rate <u>PATH</u>:

## Seminar Leader

19. What I liked most about my seminar leader was:

20. My seminar leader could improve:

21. In general, I would rate my seminar leader:

22. If I had a choice I would have preferred to work:

_____ with a professional career counselor

_____ with another student trained by a professional career counselor

_____ on an independent study basis.

## General

23. The most helpful component of the career planning seminar was:

a. PATH
b. the seminars
c. my seminar leader

24. In general, I would rate the overall experience:

25. Would you recommend this experience to a friend? Why or why not?

26. My goals for the seminar were:

27. To what degree did you achieve these goals?

28. I would rate my own participation:

29. How much time did you spend each week working in PATH in addition to the seminar meetings?

30. Should Guilford College offer the Career Planning Seminar to all students? Why or why not?

# APPENDIX B

## Correspondence

Instructions to Editors

Instructions to Expert Judges

First Letter to Students

Postcard

Follow-up Letter to Respondents

Follow-up Letter to Nonrespondents

Letter and Application to Peer Tutors

Pretest Letter

Posttest Letter

July, 1983

TO: Editors

FROM: Jim Pickering

Subject: PATH Achievement Test for Dissertation

Attached is the achievement test I developed to measure students achievement in the PATH workbook. Would you please provide me with some feedback and editing of the instrument? If so please:

1. Take the test and respond to the itmes choosing the best response.

2. Compare your answers to the correct responses on the enclosed answer sheet and edit the questions and distractors/ alternatives.

On the second time through please check all questions and distractors for clarity, redundancy, and ambiguity, etc. Please feel free to make changes, additions, and deletions of both questions and distractors. Please provide as much feedback as possible on the test booklet and if you care to discuss it with me afterwards I would be happy to do so. If you could finish by Friday, July 22, I would appreciate it.

Thank you.

606 Park Avenue
Greensboro, North Carolina 27405
August, 1983

Thank you for agreeing to assist me in validating my achievement test for my dissertation. The test was designed to test college students knowledge of the content of PATH: A Career Workbook for Liberal Arts Students by Howard Figler (1979). Some of the information in PATH may be different from your knowledge of the subject of career planning.

Enclosed are copies of PATH and the achievement test with the correct answers marked. Please return the book along with the test so I might use it for the investigation this fall. In order to help validate the test:

1. Spend some time reviewing PATH including the Table of Contents, the Principles and Premises of PATH and some of the exercises.

2. You will notice that Figler (p. 36) suggested that a career planning seminar include specifying values, specifying abilities, and creating a unique career. He also provided some information about liberal arts majors and the career planning process in general which I have labeled theory and background. The second step is to classify each question into the appropriate category:

   a. Theory and Background - those questions which refer to the characteristics, problems, and advantages of liberal arts majors AND those questions which refer to the career planning process in general.

   b. Specifying Values - those questions which refer to values of individuals and/or refer to methods of identifying/clarifying one's values.

   c. Specifying Abilities - those questions which refer to abilities which are marketable in the job market and/or methods of identifying and developing one's abilities.

d. Creating a Unique Career and Career Decision-Making - those questions which refer to combining one's values and abilities into a unique career and the methods or results of career decision making.

3. Please read each question carefully as several of these key words are often mentioned in the same question or not mentioned at all. Try to determine which category really reflects the point of the question.

4. Assign questions to only one category. Although this may be difficult, it will be helpful to me. If you have difficult decisions please let them rest for awhile and then return. Please indicate your classification by writing the labels decribed above or their corresponding letter next to the question.

5. Please feel free to do any editing for grammatical or typing errors. I would also appreciate any comments you have on the questions and distrctors or recommendations you have for improving/changing them.

Finally, in order that I may describe the qualifications of the judges would you share your score on the NBCC exam? It will be kept confidential and reported only in terms of standard deviation units.

If you have any questions please call me - 379-5100 (ext. 42) or 272-1098 at home.

Thank you very much for your assistance - I will be happy to reciprocate. Please return PATH, the test, and any comments by Friday, August 19.

Sincerely,

James W. Pickering

January 6, 1984

Dear Elon Student:

If you feel that you have postponed your future career decisions long enough and are willing to spend some time working on them, you are invited to participate in a special Elon College Career Planning Seminar. This seminar is designed to assist you in developing some career objectives and making some career decisions. Your participation in the seminar is encouraged:

* If you feel pressure from your parents, friends, professors, or yourself to declare a major or decide on a career; or

* If you want to decide what career to pursue now that you have declared a major; or

* If you want to explore your chosen career further to see how it incorporates your values, interests, and abilities.

Your work in the Career Planning Seminar will be completed before preregistration for fall courses, so it may help you to make better decisions about your academic program at Elon College as well as your future after graduation. The seminar, which may be taken as a one-credit course (Psychology 171 - "Educational and Career Decision Making"), will meet eight times for 1 1/2 - 2 hours beginning the first full week of classes in the spring semester. You will also need to spend some time between meetings completing exercises in a career workbook. If you are interested in participating or have further questions, please return the enclosed postcard through the campus mail or stop by the Career Development Office before January 18.

We look forward to working with you.

Sincerely,

James W. Pickering
Seminar Director

Susan Phillips
Director of Career
Development and Placement

Career Planning Seminar

Name _____

Elon Address _____

Phone Number _____

Date of Birth _____ Major _____

Number of Credits Completed _____

_____ I wish to participate in the Career Planning Seminar

_____ I would like more information about the Career Planning Seminar

_____ I do not wish to participate

Career Development Office
Box 2223
Elon College
Elon College, North Carolina 27244

January 23, 1984

We are pleased that you are interested in participating in the Career Planning Seminar being offered this spring. You may be concerned about how much of your time it will involve and how it might fit into your schedule. Basically the seminar is planned to begin February 6 and it will continue for eight weeks until April 6. Thus you will be finished with the seminar in time for it to assist you in your preregistration for fall courses. The purpose of the seminar is to assist you in determining some career objectives and formulating some career plans. You may use the seminar to choose a career or a major or further evaluate your choices. You will also learn a career planning process which you can use in developing or reevaluating your career plans in the future.

More specifically your commitment will involve:

1. Purchasing the workbook - PATH: A Career Workbook for Liberal Arts Students which will be available from the seminar leaders for $6;

2. Attending the first and last sessions which will consist of pretests and posttests to assess your progress as a part of the research being conducted on the seminar. Each session will last approximately 2-3 hours (weeks of February 6 and April 2);

3. Attending six 1 1/2 hour seminars (1 per week) for six weeks (February 10 - March 30) plus two additional seminars if you choose to enroll in Psychology 171; and

4. Reading and completing exercises in PATH which may take an average of 1-3 hours per week.

Meetings will be arranged with your seminar leader to accommodate group members' schedules. Seminar leaders will be assigned after the pretests. Arrangements have been made to offer one (1) hour credit (Psychology 171 - "Educational and Career Decision Making") for your participation if (a) you also participate in two additional workshops on resume writing and interviewing skills and (b) you complete the program successfully.

If you have any further questions please do not hestitate to contact one of us. We are assuming that you will participate in the seminar unless you notify us by February 3.

Thank you once again for your interest in participating in this seminar. We look forward to working with you.

Sincerely,

James W. Pickering
Seminar Director

Susan Phillips
Director of Career
Development and Placement

January 23, 1984

Dear Elon Student:

This is a follow-up of our letter to you inviting you to participate in a career planning seminar being offered this spring. If you receive the letter but did not respond because your career is sufficiently well defined, best wishes for the realization of your plans and goals. Assuming you did not receive our initial letter, please accept this as your invitation to participate in the seminar. If you received the letter however and were skeptical about whether or not the seminar could help you with your career concerns, we would like to assure you that there is hope for your career.

The seminar can help you to develop some career objectives and make some career plans if you are willing to commit some time to these important decisions. Careers often span 40 or more years and frequently involve 4-5 career changes so it would be helpful to you to learn the career planning process. Such a long term investment of yourself and your time deserves your thorough attention now while you can still determine your future. Before you decide not to participate, please contact one of us to discuss your concerns.

Participation in the seminar should help you to ease the pressure to make a career decision, or choose a major, or further explore any choice you may have already made. There is also the possibility of academic credit for your participation if you successfully complete the seminar. Please let us know of your decision to participate by February 3 or contact us before then to obtain further information.

Sincerely,

James W. Pickering
Seminar Director

Susan Phillips
Director of Career
Development and Placement

January 1984

The Career Development and Placement Office is seeking two upperclass students to act as group leaders for a Career Planning Seminar being offered this spring semester. The group leaders will be selected according to the following criteria:

1. Junior or Senior standing at Elon;
2. Well defined career plans (students who have declared a major and have some tentative career plans to pursue upon graduation);
3. Belief in the value of a liberal arts education from Elon College;
4. Good communication skills; and
5. Previous experience as a tutor, Resident Assistant, or other student leader.

As a group leader you will receive a complimentary copy of the seminar workbook, PATH: A Career Workbook for Liberal Arts Students, and you may receive academic credit for your work. You will be trained 1 1/2 hours each week to conduct the small group discussion the following week and you will be expected to prepare no more than three hours each week on your own time. The seminar will begin February 6 and continue for six weeks through March 30. Your participation should also help you to reevaluate and/or firm up your own career plans.

If you are interested in applying to be a group leader, you should complete the attached application, turn it in to the Career Development and Placement Office, and schedule an appointment for an interview. If you have any further questions, please do not hesitate to contact the Career Development and Placement Office.

Sincerely,

James W. Pickering
Seminar Director

Susan Phillips
Director of Career Development and Placement

Group Leader Application
Career Planning Seminar

Name _____

Campus/Local Address _____

_____

Local Phone Numbers -- Day _____ Evening _____

Birthdate _____ Classification _____

Major _____ Expected Date of Graduation _____

Grade Point Average _____ Number of Hours this Semester _____

Activities at Elon (Sports, Clubs, etc. -- include offices held):

Work Experience (Both Paid and Volunteer):

In the space below (continue on the back if necessary) please briefly describe your career plans and how you arrived at them:

Return to: Career Development and Placement Office

February 1, 1984

We are pleased that you have decided to participate in the Career Planning Seminar being offered February 6 through April 6. As you know, we will begin the seminar with some testing to be used only for research purposes, after which we will divide you into small groups. The tests are scheduled as follows and will last approximately 2-3 hours. Please choose the one session which is most convenient for you.

| Date | Time | Place |
|---|---|---|
| Sunday, February 5 | 6:30 PM | Chandler |
| Monday, February 6 | 2:00 PM | Multipurpose |
| | 7:00 PM | Room |
| Tuesday, February 7 | 2:00 PM | |

If you cannot attend any of these sessions, please notify us immediately or come to the Career Development Office at 9:30 AM on Tuesday, February 7.

Attached is a schedule which we would like for you to complete and bring to the test session. Although you have been assigned to a group and a tentative time for your meetings has been established, your group leader will use your schedule to confirm a time that is convenient to all group members. Your group leader will confirm this time with you and notify you of the place for your meetings which will begin the week of February 13. You have been tentatively assigned to a group which will meet on _____. If this time conflicts with your schedule, please notify us so that we may make adjustments.

The PATH workbooks will also be available at the testing session, so please bring your check for $6. Registration for Psychology 171 "Educational and Career Decision Making" will be completed at the testing session. You do not need to add the course at registration.

We look forward to working with you!

Sincerely,

James W. Pickering
Seminar Director

Susan Phillips
Director of Career Development
and Placement

March 28, 1984

This is just a brief reminder of the testing for the Career Planning Seminar scheduled for this Sunday, April 1 through Tuesday, April 3. You may choose the Sunday evening (6:30 - 9:30), Monday afternoon (2:00 - 5:00), Monday evening (7:00 - 10:00), or Tuesday evening (7:00 - 10:00) session as your schedule allows. All sessions will be in the Chandler Multipurpose Rooms where the previous testing sessions were held.

Please remember to bring the Biographical Data Sheet and Evaluation with you to the testing, if you have not already turned them in to your group leader. Also, for those of you working for course credit, we will announced the dates, times, and places for the additional seminars. Finally, please remember to bring your completed PATH workbook with you so we can check it to give you credit for the course.

I hope the Career Planning Seminar has assisted you with your career plans and helped you to learn a process for making/changing future career decisions. I appreciate also your willingness to participate in the research. If you feel that you need any additional assistance, please do not hesitate to contact me or someone in the Career Development Center.

Sincerely,

James W. Pickering

# APPENDIX C

## Forms

Time Sheet

Schedule

Consent Form

Syllabus

Career Planning Seminar
Group Leaders' Time Sheets

Week of _____ _____
Date Group Leader

Please record the actual time (e.g., 9-10:30) you spent preparing for and conducting the seminars -- include individual preparation time (NO MORE THAN 3 HOURS PER WEEK), training sessions (1½-2 hours per week), and career planning seminars (1½-2 hours per week). In addition, please indicate which activity you were engaged in at the time (e.g., preparation, training, or leadership respectively).

| DAY / TIME | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|---|
| Morning | | | | | | | |
| Afternoon | | | | | | | |
| Evening | | | | | | | |

_____
TOTAL HOURS

NAME _____



SCHEDULE

Please cross off (X) any times when you will not be available for group meetings (e.g., classes, meetings, sports practices). Every effort will be made to accomodate group members schedules. Please allow us as much flexibility as possible -- that is, please do not cross off meal times and study hours etc. which can be rearranged. Groups will meet only 1½ hours per week for 6 weeks.

| DAY / TIME | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|
| 8 - 9 | | | | | |
| 9 -10 | | | | | |
| 10-11 | | | | | |
| 11-12 | | | | | |
| 12- 1 | | | | | |
| 1 - 2 | | | | | |
| 2 - 3 | | | | | |
| 3 - 4 | | | | | |
| 4 - 5 | | | | | |
| 5 - 6 | | | | | |
| 6 - 7 | | | | | |
| 7 - 8 | | | | | |
| 8 - 9 | | | | | |
| 9 -10 | | | | | |
| 10-11 | | | | | |

Career Planning Seminar

Consent Form

Name _____ Date _____

Residence Hall/Local Address _____

_____

Campus Box # _____ Phone Number _____

Birthdate _____ Sex _____

Classification _____ Number of Credits Completed _____

I agree to participate in the Career Planning Seminar being conducted by Jim Pickering under the supervision of Dr. Marian Franklin, a professor in the Department of Counseling and Guidance at the University of North Carolina at Greensboro and Susan Phillips, Director of Career Development and Placement at Elon College. I have been informed, either orally or in writing or both, about the procedures to be followed and Jim Pickering has offered to answer further questions that I may have regarding the procedures of this study. I understand that I am free to terminate my participation at any time without penalty or prejudice and that all information I provide will be kept confidential. I am aware that further information about the conduct and review of human research at the University of North Carolina at Greensboro can be obtained by calling the Office of Sponsored Programs (379- 5878).

_____

Signature of participant

Elon College
Career Planning Seminar
(Psychology 171 - "Educational and Career Decision Making")

Syllabus

The Career Planning Seminar is designed to assist you in developing some career objectives and making some career decisions. You will learn a career planning process which will assist you in the future as your career plans change.

Group Leaders

You will be assigned to a group leader who will arrange times, days, and places for your meetings according to all of the group members' schedules. Please make sure you know your group leader and contact him/her if you have any questions or must be absent from a meeting.

_____ _____
Group Leader Phone Number

Meeting Times and Places

Each group will meet 6 times for about 1½ hours at a time convenient to all group members. Groups will meet at the same time on the same day each week from February 13 through March 30, excluding spring break.

_____ _____ _____
Day of Meeting Time Place

Assignments

| Week of | Topic | Assignment DUE |
|---|---|---|
| February 13 | Discussion of the value of a liberal arts education and the career planning process | Read PATH pp. 8-39 |
| February 20 | Discussion of Values | PATH Exercises 1-3 (pp. 40-51) |
| February 27 | Discussion of Values continues | PATH Exercises 4-6 (pp. 52-63) (Exercise 5, Part 2 - pp. 54-56 optional) |
| March 5 | Discussion of Abilities | PATH Exercises 7-9 (pp. 64-82) |
| March 12 | Creating Your Own Career | PATH Exercises 10-14 (pp. 83-106) |
| March 26 | Creating Your Own Career continued | PATH Exercises 15-18 (pp. 107-125) (Skip first part of #16) |

Textbook

PATH: A Career Workbook for Liberal Arts Students by Howard E. Figler
(Available from group leaders for $6.00)

Career Planning Seminar
Group Leaders' Time Sheets

Week of _____ _____
Date Group Leader

Please record the actual time (e.g., 9-10:30) you spent preparing for and conducting the seminars -- include individual preparation time (NO MORE THAN 3 HOURS PER WEEK), training sessions (1½-2 hours per week), and career planning seminars (1½-2 hours per week). In addition, please indicate which activity you were engaged in at the time (e.g., preparation, training, or leadership respectively).

| DAY / TIME | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|---|
| Morning | | | | | | | |
| Afternoon | | | | | | | |
| Evening | | | | | | | |

_____
TOTAL HOURS

# APPENDIX D

## Training Sessions

Career Planning Seminar
Group Leaders' Training
Session 1

I. Introduction of leaders to each other

A. Jim Pickering -- at UNC-G (919) 379-5100 ext 42
at home (919) 272-1098

B. Terra Prymuszewski

C. Andy Minnis

D. Nancy Moreton

E. Andy McCandless

II. General Procedural Guidelines

A. Time Sheets

1. One per week (record date)

2. Record time spent in preparation ($\leq$ 3 hours per week)
training (1 1/2 hours per week)
leading (1 1/2 hours per week)

3. Record total hours spent rather than times

B. Rosters

1. Will supply total roster when finalized

2. Only Attendance Roster supplied today

C. Attendance

1. Mandatory to pass course

2. Call participants who skip sessions

3. Notify Jim if they skip more than one session

D. Syllabus

1. Extra?

2. Remind students of assignments

3. Assignments are to be completed outside class and are due on the day specified

4. Give students your phone number

5. Clearly give dates, time, and place of your classes--these should be the same every week

E. Record all meetings

1. I will supply recorders and tapes

2. Recording is just for research purposes; to assure that everyone is doing the same thing

3. Tell students the reasons for recording and that all tapes will be held confidential--the only person who will hear them will be Jim

4. Ask their permission to record them while the tape is running

5. Label tapes -- Group leader
Session #
Date

6. Turn in tapes each week

F. I will supply newsprint and magic markers when needed--probably next week

III. Setting up your groups

A. Where?

B. When? Use students schedules, as well as your own, to determine a mutually agreeable day and time to meet for 1 1/2 hours

C. If there are unresolvable problems or conflicts, call Jim

D. Contact all group members, preferably by phone, by the weekend to inform them of the date, time, and place--remind them that the first assignment is due and will be discussed

IV. General Guidelines (PATH, pp. 35-39)

A. Individual guidelines

1. Be specific in response to the questions in PATH

2. Write all responses -- NO mental blackboard

3. Allow sufficient time for each exercise

4. It may help to explain your responses to someone else -- purpose of the group meetings

5. Avoid distractions when doing exercises

6. Invest some time and thought even in exercises that seem worthless and silly

B. Guidelines for counselors

1. Point 2 outlines the purpose of the course

2. Point 6 -- the earlier you can reach a student in their college career, the better

3. Point 7 lists the three sections of the course

-- specifying values

-- specifying abilities

-- combining values and abilities into a unique career

C. Group Guidelines

1. Focus rules

-- Focus person gets groups' complete attention

-- no one is obligated to speak, but all are encouraged

2. No co-leader

3. No subgroups, unless groups get much larger

4. Assignments are to be completed before the meeting for which they are assigned

5. Assignments are generally not covered in the group meeting unless someone has a question

6. Encourage/facilitate discussion among participants with fewer comments from group leaders

7. Demonstrate exercises

8. Checklists are good for eliciting responses from participants but responses should be explored in more depth

V. Guidelifnes for conducting Session 1

A. Introduce yourself

1. Name

2. Affiliation

3. Your career plans and how you arrived at them

B. Introduce the seminar -- Although they have registered for the course, they may not be sure what they have gotten themselves into because this is not a regular course. We need to ease their minds, assure them that they are in the right place, and make them feel comfortable.

1. Goals of course

-- To help participants make career decisions

-- To choose a major

-- To confirm one's choice of major or discover what can be done with that major

-- To learn a career planning process which will assist participants with future career decisions

2. Topics

   -- Specifying values

   -- Specifying skills

   -- Combining values and skills into a unique career

3. Procedures

   -- Complete individual exercises outside class

   -- Will generally not discuss these exercises in class

   -- Will complete group exercises in class

   -- Classes will be recorded

   -- Course is Pass/Fail

   -- Requirements - complete PATH
                   - Attendance is mandatory
                   - Two additional seminars

C. Have group members introduce themselves

1. Name

2. Major or undecided

3. Current career plans if any

4. One thing they learned about career planning or liberal arts majors from their reading

5. How does what they discovered relate personally to them?

D. Discussion of important points in each chapter of PATH (pp. 8-39) -- See Attached

E. Discussion Questions

1. What are the advantages of being a liberal arts major? Disadvantages?

2. What is work and what does it mean to you?

3. What is your goal for this course?

4. How much pressure do you feel to make some career decisions (e.g., choose a major)? From whom?

F. Remind students about the assignment for next week -- Suggest to them that in exercise 3 (p. 51) the examples are given are just examples for which they may want to substitute their own.

# PATH Notes

## Introduction Summary

1. Personal attributes are more important than the specific degree.

2. One should ask, "What is work and what does it take to do it?" rather than "How can I use a major in _____?" (p. 8)

   a. skills - communication, thinking, human relations
   b. motivation, ambition
   c. adaptability

3. You will acquire new skills in service of your values - values lead you to want to develop skills.

4. "A liberal education . . . can enrich any occupation while training for none" (p. 11).

5. Liberal arts majors often delay career decisions.

6. Employers do not know what to expect from liberal arts majors so they need self-assessment to help employers appreciate their qualifications.

7. The liberal arts majors' ultimate weapon is their abilities to develop creative solutions to problems.

8. One cannot be trained specifically for every career so transferrable skills are important.

9. Everyone is a liberal arts graduate because formal education eventually has little relationship to career choices.

10. People who make contributions are dealing with what they do not know.

## Chapter 1 Additional Points

11. The purpose of PATH is to help students develop some career objectives.

12. Ten myths of career decision-making (pp. 18-19).

13. A liberal arts major may make it difficult to compete for the first job BUT with experience a liberal arts major becomes an asset.

14. To chart your PATH:
    a. identify all desirable elements you want in work.
    b. use each job to prepare you for the next job.
    c. look for problems to be solved rather than jobs.

## Chapter 2 Additional Points

11. PATH ignores job market supply and demand.

12. The vocational reflex is based on insecurity ("I'll major in _____ so I can get a job in _____").

Career Planning Seminar
Group Leaders' Training
Session 2

I. General Procedural Guidelines

A. Any questions on Time Sheets?
Rosters?
Syllabus?
Recording Sessions?

B. How well have group schedules worked out?
When and Where are you meeting?

1. Terra

2. Andy Minnis

3. Nancy

4. Anday McCandless

C. How clear are the guidelines for conducting the meetings?

D. How well did the first meeting go?

What went well?

What needs to be changed?

How did the students respond to you?

How did the students respond to the material covered?

Attendance? (Call absentees)

E. Training Sessions (Terra's office)

1. Session 1 -- Wednesday, February 8, 4:30 - 6:00

2. Session 2 -- Wednesday, February 15, 1:00 - 2:30

3. Session 3 -- Wednesday, February 22, 1:00 - 2:30

4. Session 4 -- Wednesday, February 29, 1:00 - 2:30

5. Session 5 -- Wednesday, March 7, 1:00 - 2:30

6. Session 6 -- Wednesday, March 14, 1:00 - 2:30

II. Guidelines for conducting Session 2

A. Brief warm-up (5-10 minutes) -- Ask a question relating to the individual exercises

1. What is an example of "an unfulfilled career fantasy, at least one career to which you have aspired secretly, wished that you had the ability and the freedom to give it a try?" (#5, p. 41).

2. "How do you feel about the whole idea of work?" (#1, p. 42).

B. Remind group leaders about Guidelines for conducting the groups (PATH, pp. 36-39).

C. First group exercise -- PATH, p. 44 (30 - 45 minutes)

1. Life/Work Styles -- (Exercise 2, Part 2) No subgroups

2. Work/Play Options -- (Exercise 2, Part 3) No subgroups

3. Discussion Questions -- Use ONLY IF there is extra time

a. How much do you value work?

b. What are your attitudes toward work in general? (If not used as a warm-up)

c. What are some of your career fantasies? (If not used as a warm-up)

d. Is there anyone you know personally or by reputation who is actually living their career fantasy? How is she/he doing it?

e. How will you combine work and family and leisure?

f. Will work offer you intrinsic or extrinsic rewards?

D. Second group exercise -- PATH, pp. 47-50 (30 - 45 minutes)

1. State the purpose of the exercise as explained in PATH on p. 49

2. Things I'd Like to Change -- (Exercise 3, Part 2) No Subgroups

3. Your Career and Society -- (Exercise 3, Part 3) No Subgroups

4. Discussion Questions -- Use ONLY IF there is extra time

a. What work values did you identify/chose on p. 47 and p. 48 (in box)?

b. What unique work values, if any, did you add to the list on p. 47?

c. What is the sentence you used to describe what you want from these values (p. 47)?

E. Make sure that everyone participates, especially in "Things I'd Like to Change" -- everyone should get an opportunity to be the focus person

F. Remind students about their assignment for next week -- They should also complete any rankings/preparation for the group discussions

G. Suggestions, ideas, additions, deletions from group leaders

Career Planning Seminar
Group Leaders' Training
Session 3

I. General Procedural Guidelines

A. How well did the second class go?

Attendance? Problems?

How are the students responding?

How hard did you have to work?

How much did the students participate?

B. Final rosters -- problems?

Missing forms, etc.?

II. Guidelines for conducting Session 3

A. Brief warm-up (5 - 10 minutes)

1. Burning questions from last week?

2. Question relating to this week's exercises (4 - 6) If you had the freedom to do whatever you wish for the next year, what would you do?

B. Enjoyable activities exercise (pp. 58-59)

1. Part 1 -- (#2, pp. 58 - 59)
Discussion of each student's enjoyable activities as outlines on newsprint (approximately 45 minutes)

2. Part 2 -- (#3-5, p. 59)
Identifying 4 enjoyable activities students would like to include as part of their paid employment (approximately 30-45 minutes)

-- group leaders should give an example

C. Discussion questions -- Use ONLY if there is extra time

1. Who wants to work with people?

   What did you discover from the exercise on working with people (pp. 60-61)?

   How would you prefer to work with people (e.g., counseling, leading, or selling etc.)?

   With what kinds of people would you most/least like to work?

2. What majors did you consider in exercise 4 (p. 52)?

   Who has declared a major?

   How satisfied are you with that major?

   (NOTE: We need to be supportive of students who have not yet chosen a major -- that is often a good choice!)

3. Who plans to attend graduate school?

   What did you learn about graduate school from the exercise (optional) on pp. 54-56?

4. What significant others have had the greatest impact on your career decisions (pp. 62-63)?

D. Remind students about assignment for next week -- Exercises 7-9, pp. 64-82 on skills

Career Planning Seminar
Group Leaders' Training
Session 4

I. General Procedural Guidelines

A. How well did the third class go?

Attedance? Problems?

How are the students responding?

How hard did you have to work?

How much did the students participate?

B. Final rosters -- problems?

Missing forms, etc.?

II. Guidelines for conducting Session 4

A. Brief warm-up (5-10 minutes)

1. Burning questions from last week?

2. Questions relating to this week's exercises (7-9)

a. What are some of your most significant achievements (p. 65)? OR

b. "What is the best _____ you ever did" (pp. 77-78)? AND

c. What skills do these achievements suggest you may use for employment?

B. Emphasis shifting now to skills rather than values

C. Abilities exercise (#3, pp. 66-67)

1. No subgroups

2. Encourage discussion, questions, and comments from the participants to the focus person

3. Make sure that everyone gets to be a focus person

4. A point to make is that "abilities repeat themselves in several life experiences. . ." (p. 67)

D. Discussion Questions -- Use ONLY if there is extra time

1. What are some of your underlying abilities which have potential for your career (box on p. 66)?

2. What are your most frequently used abilities listed in the chart on p. 68?

3. Important Point -- "When evaluating your abilities, do not compare yourself with any particular reference group. . . . Just rate yourself according to your best estimate of your capability" (p. 70).

4. What are some of your greatest skills listed under number 1 on p. 69?

5. In which areas listed on pages 70-72 did you find most of your skills fell? (e.g., Verbal-Persuave, Social, Numerical, Investigative, Manual-Physical, Creative, etc.)

6. What are your most outstanding abilities listed in the box on p. 72?

7. Important Point -- How would you define functional skills? Review the definition on p. 72.

8. What are some of your functional skills listed on pages 73-77?

9. Of all the categories listed on pages 77-78, "What is the best _____ you ever did?" (If not used as a warm-up)

10. What are the 6 most prominent abilities you identified in your abilities by achievements chart on p. 79? NOTE -- there is room for fewer achievements than originally listed.

11. What other unique abilities did you identify on p. 82?

E. NOTE -- Many of these questions are actually the same question, that is what are your skills. However, PATH has offered students many different opportunities to identify skills which may result in the identification of different skills. Consequently, you might phrase the question, "What additional unique skills, if any, did you identify on p. ____?

Career Planning Seminar
Group Leaders' Training
Session 5

I. General Procedural Guidelines

A. How well did the fourth class go?

Attendance? Problems?

How well are students responding?

How well is the group working?

B. Letter to dropouts

C. Still missing PATH payments from

Scott Howard
Patricia Trapp
Kelly York
Patrick Vota

II. Guidelines for conducting session 5

A. Brief warm-up (5-10 minutes)

1. What occupational titles (pp. 86-89) appealed to you? Why? What others might you consider?

2. Brainstorm a list of things the group would like to know about any job for which they might apply (this list of questions can be used to supplement other questions posed in the information interviews [pp. 90-92]).

B. NOTE -- Emphasis is now shifting FROM specifying values and abilities TO combining values and abilities into a unique, creative career

C. A few points to make about Exercie 10

1. Skip the note to the group leader (#1 on p. 83)

2. The standard reference books listed in item 2 on p. 83 are located in the career library -- you may want to bring them to your meeting to show them to the students

3. Books and printed materials are just one source of occupational information. Students should also be strongly encouraged to do the "information interview" as suggested on pp. 90-92. They should interview someone who is doing a job they think they would like to do.

D. Fantasy Careers Exercise (pp. 104-105)

1. No subgroups

2. For step 2, students may want to use their lists of values and abilities from previous exercises OR, if they do not have them, they may develop a new list from the lists of values and abilities most likely to be relevant to their future careers which they listed in the boxes on p. 85

3. Encourage students to develop and recommend fantasy careers which do not yet exist -- give an example or two of your own first

4. In step 4, although the group may strive for consensus on a fantasy career, the focus person has the "final say" and should not be put on the spot

E. Creative Careers Exercise (pp. 105-106)

1. In step 2, use the sketch pads rather than the blackboard

2. Important Point -- "Almost any combination of values, skills, etc., can be integrated in a way which makes some sense regardless of the type of employer who might be preferred by the individual" (p. 106).

3. Group leaders should develop their own hypothetical examples of creative careers (before the group meeting) as an example for group members

4. If there is time left, group members might share some of their creative careers - if not they should complete the exercise as homework for next week

F. Discussion Questions -- Use ONLY if there is extra time

1. What are some of the trial occupations you identified in Exercise 10 and what values and abilities were associated with them (pp. 84-85)?

2. What 4 values and 4 abilities are most relevant to your future career (boxes on p. 85)?

3. What occupational titles did you choose (pp. 86-89) (if not used as a warm-up exercise)?

4. What did you discover about your chosen career from interviewing someone in that career (pp. 90-92)?

5. Important Point -- Point out the target variables to consider in choosing an organization for which you would like to work (p. 96).

6. What target variables are most important to you?

7. "What sort of career might draw together all of the values that you regard as most important?" (p. 101)

8. What career did you create by combining all of your value priorities (box on p. 102)?

9. What career did you create by combining all of your prominent talents (box on p. 104)?

G. NOTE -- Students may have already discussed many of the answers to these questions in the group exercises.

Career Planning Seminar
Group Leaders' Training
Session 6

I. General Procedural Guidelines

A. How well did the fifth class go?

Attendance? Problems?

How well did our skills warm-up work?

B. Missing PATH payments?

C. Tapes so far are very good

D. At last session

1. sign-up sheets for posttests

2. Biographical Data Sheets

3. Evlauation Forms

4. Schedule additional seminars

II. Guidelines for conducting Session 6

A. Brief warm-up (5-10 minutes)

1. What creative careers did you develop from homework (chart on p. 106)? Assist group in developing some creative careers for each person.

2. Any areas that need review? Values? Skills?

B. This final session is more of a general discussion than a specifically structured exercise -- students should be encouraged to complete all exercises, including information interviews, before testing

C. Reality Testing Exercise (p. 109)

1. Each group member should share with the rest of the group the reality testing of their creative career(s)

2. Suggest that reality testing = exploration

3. Purpose of the exercise is to alert students to what is ahead in their creative careers

D. Discussion Questions -- Use ONLY if there is extra time

1. Important Point -- There are 7 levels of reality testing which students should use to correct/adjust their image or stereotype of their creative career -- Each successive one takes more time and may be more threatening BUT also may provide a more realistic reality check (p. 107).

2. What reality tests have you used so far? What did you discover about your creative career?

3. Which reality tests seem most important to you?

4. Two key questions (p. 110):

   a. "What kinds of people or organizations need the abilities that I have to offer?"

   b. "What kinds of organizations are most likely to satisfy the values that I most desire in a career?"

5. Point -- The yellow pages are good for identifying propsective employers (p. 111)

6. Which employers in the yellow pages would be most appropriate to your career (box on p. 111)?

7. Important Point -- Discuss/encourage the strategies to use for career planning during college (pp. 114-115)

8. Point -- The inquiring Reporter Form (Part 3, pp. 120-121) seems similar to the Occupational Data Sheet (pp. 90-92) -- both are information interviews

9. If you have done an information interview, what did you discover? How did it go for you?

10. Important Point -- Discuss strategy after college (pp. 118-119)

11. Important Point -- "If you do not create your own career and evluate your potential employers with care, then resumes and job interviews will be largely futile efforts" (p. 119)

12. How do you prefer to collect data to make decisions (p. 123)?

13. How do you generally prefer to make decisions (pp. 124-125)?

E. General summary discussion

1. What is your career plan for the remainder of your career here at Elon?

2. What do you currently plan to do upon graduation?

3. What career decisions, if any, have you made during the Career Planning Seminar?

4. How would you evaluate your experience in the Career Planning Seminar?

# APPENDIX E

Table E-1

Biographical Data of Participants for Each College and for the Total Sample

| Variable | College (Frequencies) Guilford | Elon | Total |
|---|---|---|---|
| **Categorical Variables** | | | |
| Number of participants | 32 | 36 | 68 |
| Treatment | | | |
| Career counselors | 11 | 14 | 25 |
| Peer tutors | 11 | 10 | 21 |
| Directed self study | 10 | 12 | 22 |
| Residence | | | |
| On campus | 32 | 26 | 58 |
| Off campus | 0 | 10 | 10 |
| Home | | | |
| In state | 12 | 17 | 29 |
| Out of state | 20 | 15 | 35 |
| Sex | | | |
| Female | 14 | 14 | 28 |
| Male | 18 | 22 | 40 |
| Race | | | |
| Black | 1 | 2 | 3 |
| White | 31 | 32 | 63 |
| Hispanic | 0 | 1 | 1 |

Table E-1 (continued)

| Variable | College (Frequencies) | | |
|---|---|---|---|
| | Guilford | Elon | Total |
| Religion | | | |
| Protestant | 24 | 29 | 53 |
| Catholic | 1 | 7 | 8 |
| Jewish | 2 | 0 | 2 |
| No choice | 3 | 0 | 3 |
| Missing cases | 0 | 0 | 2 |
| Class | | | |
| Freshman | 0 | 17 | 17 |
| Sophomore | 28 | 18 | 46 |
| Junior | 4 | 1 | 5 |
| Major | | | |
| Undecided | 12 | 25 | 37 |
| Decided | 20 | 11 | 31 |
| What students hope to gain from college experience: | | | |
| Knowledge and ideas | 29 | 24 | 53 |
| Career preparation | 28 | 33 | 61 |
| Graduate school preparation | 16 | 7 | 23 |
| Campus activities | 14 | 14 | 28 |
| Social activities | 24 | 24 | 48 |
| Goals for seminar | | | |
| Career planning | 25 | 21 | 46 |
| To decide on a major | 2 | 7 | 9 |
| Other | 5 | 8 | 13 |

Table E-1 (continued)

| Variable | College (Frequencies) Guilford | Elon | Total |
|---|---|---|---|
| State of high school | | | |
| In state | 11 | 18 | 29 |
| Out of state | 20 | 17 | 37 |
| Missing cases | 0 | 0 | 2 |
| High school location | | | |
| Rural | 7 | 11 | 18 |
| Urban | 8 | 10 | 18 |
| Suburban | 16 | 12 | 28 |
| Missing cases | 0 | 0 | 4 |
| Father's education | | | |
| Don't know | 1 | 0 | 1 |
| Graduate school | 15 | 12 | 27 |
| College graduate | 9 | 7 | 16 |
| Some college | 5 | 8 | 13 |
| High school graduate | 2 | 6 | 13 |
| Some high school | 0 | 3 | 3 |
| Mother's education | | | |
| Gradute school | 4 | 5 | 9 |
| College graduate | 17 | 10 | 27 |
| Some college | 5 | 4 | 9 |
| High school graduate | 6 | 15 | 21 |
| Some high school | 0 | 2 | 2 |
| Father's employment status | | | |
| Employed | 28 | 35 | 63 |
| Unemployed | 0 | 1 | 1 |
| Retired | 4 | 0 | 4 |

Table E-1 (continued)

| Variable | College (Frequencies) Guilford | Elon | Total |
|---|---|---|---|
| Mother's employment status | | | |
| Employed | 19 | 28 | 47 |
| Unemployed | 12 | 7 | 19 |
| Missing cases | 0 | 0 | 2 |
| Father's occupation | | | |
| Don't know | 1 | 1 | 2 |
| Executives | 21 | 13 | 34 |
| Business manager | 2 | 8 | 10 |
| Administrative personnel | 6 | 8 | 14 |
| Clerical or sales | 0 | 3 | 3 |
| Blue collar | 1 | 3 | 4 |
| Homemaker | 1 | 0 | 1 |
| Mother's occupation | | | |
| Don't know | 1 | 1 | 2 |
| Executives | 0 | 1 | 1 |
| Business manager | 10 | 11 | 21 |
| Administrative personnel | 5 | 8 | 13 |
| Clerical or sales | 5 | 4 | 9 |
| Blue collar | 2 | 4 | 6 |
| Homemaker | 9 | 5 | 14 |
| Missing cases | 0 | 0 | 2 |
| Family income | | | |
| Don't know | 5 | 13 | 18 |
| less than $10,000 | 1 | 0 | 1 |
| $10,000 to $25,000 | 4 | 1 | 5 |
| $25,000 to $50,000 | 6 | 14 | 20 |
| $50,000 to $100,000 | 10 | 8 | 18 |
| greater than $100,000 | 5 | 0 | 5 |
| Missing cases | 0 | 0 | 1 |

Table E-1 (continued)

| Variable | College (Frequencies) Guilford | Elon | Total |
|---|---|---|---|
| **Continuous Variables** | | | |
| Age | | | |
| M = | 19.33 | 19.66 | 19.51 |
| SD = | .55 | 2.74 | 2.04 |
| N = | 30 | 35 | 65 |
| Credits earned | | | |
| M = | 32.90 | 30.94 | 31.88 |
| SD = | 9.76 | 16.67 | 13.69 |
| N = | 29 | 31 | 60 |
| College GPA | | | |
| M = | 2.59 | 2.46 | 2.52 |
| SD = | .39 | .72 | .58 |
| N = | 28 | 31 | 59 |
| Hours of work per week | | | |
| M = | 18.90 | 15.22 | 17.00 |
| SD = | 6.67 | 6.54 | 6.80 |
| N = | 30 | 32 | 62 |
| Hours of study per week | | | |
| M = | 5.43 | 7.76 | 6.61 |
| SD = | 8.97 | 9.31 | 9.14 |
| N = | 28 | 29 | 57 |
| Hours of activities per week | | | |
| M = | 9.10 | 12.58 | 10.68 |
| SD = | 7.94 | 10.61 | 9.32 |
| N = | 29 | 24 | 53 |

Table E-1 (continued)

| Variable | College (Frequencies) Guilford | Elon | Total |
|---|---|---|---|
| Size of high school | | | |
| M = | 1167.59 | 1520.41 | 1352.67 |
| SD = | 662.26 | 962.00 | 845.21 |
| N = | 29 | 32 | 61 |
| High school GPA | | | |
| M = | 2.96 | 2.46 | 2.68 |
| SD = | .49 | .57 | .59 |
| N = | 21 | 26 | 47 |
| Hours studying per week in high school | | | |
| M = | 12.07 | 9.67 | 10.81 |
| SD = | 7.34 | 5.72 | 6.59 |
| N = | 27 | 30 | 57 |
| Father's SES | | | |
| M = | 19.43 | 25.60 | 22.75 |
| SD = | 11.10 | 12.71 | 12.30 |
| N = | 30 | 35 | 65 |
| Mother's SES | | | |
| M = | 36.55 | 35.73 | 36.13 |
| SD = | 12.51 | 13.16 | 12.75 |
| N = | 31 | 33 | 64 |
| Family SES | | | |
| M = | 55.24 | 60.97 | 58.29 |
| SD = | 15.25 | 19.87 | 17.95 |
| N = | 29 | 33 | 62 |

Table E-2

Biographical Data of Participants by Method of Treatment and for the Total Sample

| Variable | Method of Treatment (Frequency) | | | |
|---|---|---|---|---|
| | Career Counselors | Peer Career Tutors | Directed Self Study | Total |
| **Categorical Variables** | | | | |
| Number of participants | 25 | 21 | 22 | 68 |
| Residence | | | | |
| On campus | 20 | 20 | 18 | 58 |
| Off campus | 5 | 1 | 4 | 10 |
| Home | | | | |
| In state | 12 | 8 | 9 | 29 |
| Out of state | 12 | 12 | 11 | 35 |
| Missing cases | 0 | 0 | 0 | 4 |
| Sex | | | | |
| Female | 9 | 11 | 8 | 28 |
| Male | 16 | 10 | 14 | 40 |
| Race | | | | |
| Black | 0 | 0 | 3 | 3 |
| White | 25 | 20 | 18 | 63 |
| Hispanic | 0 | 0 | 1 | 1 |
| Religion | | | | |
| Protestant | 22 | 17 | 14 | 53 |
| Catholic | 2 | 2 | 4 | 8 |
| Jewish | 0 | 1 | 1 | 2 |
| No choice | 1 | 0 | 2 | 3 |
| Missing cases | 0 | 0 | 0 | 2 |

Table E-2 (continued)

| Variable | Method of Treatment (Frequency) | | | |
|---|---|---|---|---|
| | Career Counselors | Peer Career Tutors | Directed Self Study | Total |
| Class | | | | |
| Freshman | 7 | 4 | 6 | 17 |
| Sophomore | 16 | 15 | 15 | 46 |
| Junior | 2 | 2 | 1 | 5 |
| Major | | | | |
| Undecided | 10 | 14 | 13 | 37 |
| Decided | 15 | 7 | 9 | 31 |
| What students hope to gain from college experience: | | | | |
| Knowledge and ideas | 18 | 18 | 17 | 53 |
| Career preparation | 22 | 20 | 19 | 61 |
| Graduate school preparation | 10 | 7 | 6 | 23 |
| Campus activities | 8 | 11 | 9 | 28 |
| Social activities | 16 | 18 | 14 | 48 |
| Goals for seminar | | | | |
| Career planning | 18 | 15 | 13 | 46 |
| To decide on a major | 3 | 4 | 2 | 9 |
| Other | 4 | 2 | 7 | 13 |
| High school | | | | |
| In state | 12 | 6 | 11 | 29 |
| Out of state | 13 | 14 | 10 | 37 |
| Missing cases | 0 | 0 | 0 | 2 |

Table E-2 (continued)

| Variable | Method of Treatment (Frequency) | | | |
|---|---|---|---|---|
| | Career Counselors | Peer Career Tutors | Directed Self Study | Total |
| High school location | | | | |
| Rural | 7 | 6 | 5 | 18 |
| Urban | 7 | 4 | 7 | 18 |
| Suburban | 10 | 10 | 8 | 28 |
| Missing cases | 0 | 0 | 0 | 4 |
| Father's education | | | | |
| Don't know | 0 | 1 | 0 | 1 |
| Graduate school | 10 | 10 | 7 | 27 |
| College graduate | 8 | 4 | 4 | 16 |
| Some college | 3 | 5 | 5 | 13 |
| High school graduate | 4 | 1 | 3 | 8 |
| Some high school | 0 | 0 | 3 | 3 |
| Mother's education | | | | |
| Gradute school | 3 | 3 | 3 | 9 |
| College graduate | 10 | 12 | 5 | 27 |
| Some college | 7 | 0 | 2 | 9 |
| High school graduate | 4 | 6 | 11 | 21 |
| Some high school | 1 | 0 | 1 | 2 |
| Father's employment status | | | | |
| Employed | 23 | 19 | 21 | 63 |
| Unemployed | 0 | 0 | 1 | 1 |
| Retired | 2 | 2 | 0 | 4 |
| Mother's employment status | | | | |
| Employed | 16 | 14 | 17 | 47 |
| Unemployed | 8 | 6 | 5 | 19 |
| Missing cases | 0 | 0 | 0 | 2 |

Table E-2 (continued)

| Variable | Method of Treatment (Frequency) Career Counselors | Peer Career Tutors | Directed Self Study | Total |
|---|---|---|---|---|
| Father's occupation | | | | |
| Don't know | 0 | 1 | 1 | 2 |
| Executives | 14 | 12 | 8 | 34 |
| Business manager | 3 | 2 | 5 | 10 |
| Administrative personnel | 5 | 5 | 4 | 14 |
| Clerical or sales | 2 | 0 | 1 | 3 |
| Blue collar | 1 | 0 | 3 | 4 |
| Homemaker | 0 | 1 | 0 | 1 |
| Mother's occupation | | | | |
| Don't know | 0 | 0 | 2 | 2 |
| Executives | 0 | 0 | 1 | 1 |
| Business manager | 7 | 10 | 4 | 21 |
| Administrative personnel | 3 | 5 | 5 | 13 |
| Clerical or sales | 3 | 1 | 5 | 9 |
| Blue collar | 4 | 0 | 2 | 6 |
| Homemaker | 8 | 4 | 2 | 14 |
| Missing cases | 0 | 0 | 0 | 2 |
| Family income | | | | |
| Don't know | 8 | 6 | 4 | 18 |
| less than $10,000 | 0 | 1 | 0 | 1 |
| $10,000 to $25,000 | 1 | 1 | 3 | 5 |
| $25,000 to $50,000 | 5 | 4 | 11 | 20 |
| $50,000 to $100,000 | 9 | 6 | 3 | 18 |
| greater than $100,000 | 2 | 3 | 0 | 5 |
| Missing cases | 0 | 0 | 0 | 1 |

Table E-2 (continued)

| Variable | Method of Treatment (Frequency) Career Counselors | Peer Career Tutors | Directed Self Study | Total |
|---|---|---|---|---|
| **Continuous Variables** | | | | |
| Age | | | | |
| M = | 19.46 | 19.35 | 19.71 | 19.51 |
| SD = | 1.10 | .93 | 3.31 | 2.04 |
| N = | 24 | 20 | 21 | 65 |
| Credits earned | | | | |
| M = | 34.09 | 29.88 | 31.05 | 31.88 |
| SD = | 16.86 | 11.55 | 11.42 | 13.69 |
| N = | 23 | 17 | 20 | 60 |
| College GPA | | | | |
| M = | 2.58 | 2.56 | 2.41 | 2.52 |
| SD = | .58 | .58 | .61 | .58 |
| N = | 23 | 17 | 19 | 59 |
| Hours of work per week | | | | |
| M = | 18.22 | 18.17 | 14.67 | 17.00 |
| SD = | 8.06 | 6.51 | 5.00 | 6.80 |
| N = | 23 | 18 | 21 | 62 |
| Hours of study per week | | | | |
| M = | 4.94 | 6.05 | 8.65 | 6.61 |
| SD = | 7.67 | 8.28 | 11.02 | 9.14 |
| N = | 18 | 19 | 20 | 57 |
| Hours of activities per week | | | | |
| M = | 9.16 | 12.63 | 10.56 | 10.68 |
| SD = | 8.40 | 11.16 | 8.64 | 9.32 |
| N = | 19 | 16 | 18 | 53 |

Table E-2 (continued)

| Variable | Method of Treatment (Frequency) Career Counselors | Peer Career Tutors | Directed Self Study | Total |
|---|---|---|---|---|
| Size of high school | | | | |
| M = | 1111.43 | 1613.16 | 1384.21 | 1352.67 |
| SD = | 856.72 | 1009.65 | 563.73 | 845.21 |
| N = | 23 | 19 | 19 | 61 |
| High school GPA | | | | |
| M = | 2.70 | 2.77 | 2.52 | 2.68 |
| SD = | .64 | .64 | .38 | .59 |
| N = | 21 | 15 | 11 | 47 |
| Hours studying per week in high school | | | | |
| M = | 11.65 | 10.67 | 10.05 | 10.81 |
| SD = | 8.06 | 5.62 | 5.95 | 6.59 |
| N = | 20 | 18 | 19 | 57 |
| Father's SES | | | | |
| M = | 21.60 | 20.42 | 26.23 | 22.75 |
| SD = | 11.60 | 11.20 | 13.79 | 12.30 |
| N = | 25 | 19 | 21 | 65 |
| Mother's SES | | | | |
| M = | 39.24 | 31.85 | 36.53 | 36.13 |
| SD = | 13.40 | 11.25 | 12.74 | 12.75 |
| N = | 25 | 20 | 19 | 64 |
| Family SES | | | | |
| M = | 60.84 | 51.39 | 61.47 | 58.29 |
| SD = | 18.41 | 11.93 | 20.93 | 17.95 |
| N = | 25 | 18 | 19 | 62 |